11/33.

PALESTINE.

DEPARTMENT OF HEALTH

ANNUAL REPORT

FOR THE YEAR

1933.

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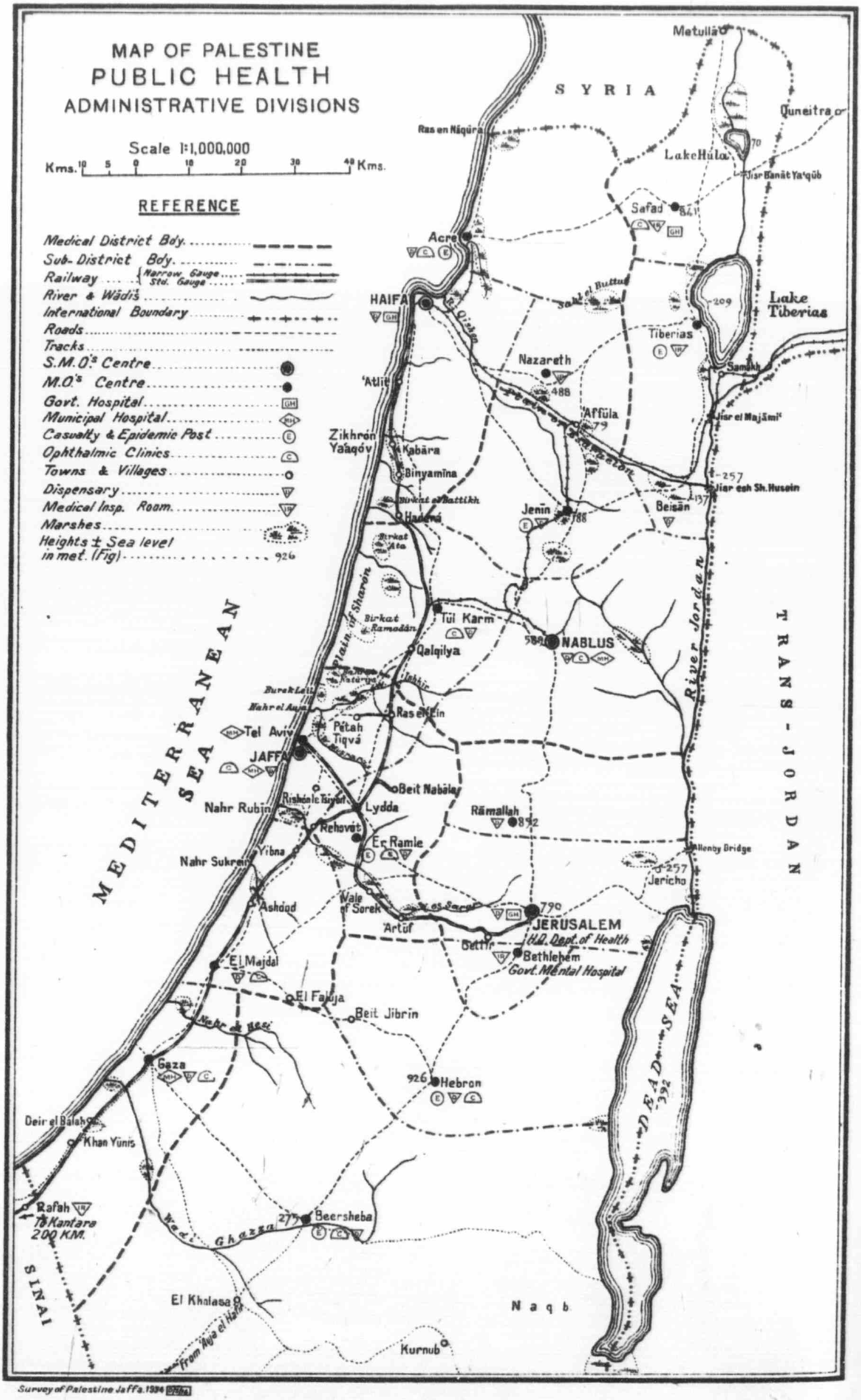

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GOVERNMENT OF PALESTINE.

ANNUAL REPORT
OF THE
DEPARTMENT OF HEALTH
FOR THE YEAR
1933.

SECTION I

General Considerations.

Administration.

Establishment.

1. The establishment of the Department was increased by the inclusion of the following posts :—

A Senior Medical Officer Endemic Diseases, Grade F.

A Medical Officer for the Government Hospital, Safad.

Three Medical Officers for Ophthalmic Work.

A Sanitary Engineer.

A Matron for the Government Hospital, Safad.

Two Superintendents of Midwifery for Maternity and Infant Welfare Service.

Seven District Nurses (Three for Infant Welfare and four for Ophthalmic Work).

Five Staff Nurses, one for the extension of the Watan Hospital, Nablus, and four for the Government Hospital, Safad.

A clerk Grade O in connection with Ophthalmic Work.

A Motor Driver for Ophthalmic Lorry and Trailer.

A Motor Driver for the Disinfecting Lorry at Haifa District.

A Laboratory Attendant for duty as Inspector in connection with Weights and Measures.

The following promotions, honours and change of titles occurred in Departmental Establishments:—

Dr. G. Stuart, O.B.E., Promoted to Grade E, title changed to that of Deputy Director (Labs).

On the occasion of New Year Honours 1933, Dr. Mihalaki Shishmanoglou, Asst. Senior Medical Officer of the Department, was appointed Honorary Member of the Order of the British Empire.

The undermentioned Medical Officers were promoted to Grade "H" and titles changed to "Asst. Senior Medical Officers".

Dr. David Bulos, M.B.E.,; Dr. Raphael Oplatka, M.B.E.,; Dr. Haleem Abu Rahmeh, M.B.E.,; Dr. Mihalaki Shishmanoglou M.B.E.,; and Dr. Hussein Fakhri Khalidi.

Vacancies in the Department's establishment were filled by the appointment of :—

Dr. Norman Macpherson Maclennan — Senior Medical Officer, Endemic Diseases.

Mr. Michel Youssef Samaha, Sanitary Engineer.

Dr. Sami Bisharah. Dr. Khalil Budeiri. Dr. Shlomo Livni. Dr. Daud Khalil Mikhail.	To fill the new posts of Medical Officers.

Miss Emily Dickin — Superintendent of Midwifery, to complete establishment.

Miss L.B. Walker — British Nursing Sister, replaced Miss I. Freeth resigned.

Miss H.M.P. Roulstone — British Nursing Sister, replaced Miss M.E. Lloyd resigned.

Miss I.M.L. Budd. Miss J. Hadden. Miss J.I. Green.	To fill the new posts of British Nursing Sisters.

The Department suffered a loss by the death of the Sanitary Engineer, Mr. Louis Cantor, which occurred on 8-1-33. Mr. Cantor was the first Sanitary Engineer of the Department and worked with great energy and enthusiasm in furthering the Department's programme of sanitary improvements in the country.

The following was the distribution of staff at the end of the year:—

Appointment.	Grade.	Name.	Station.
HEADQUARTERS AND DISTRICT ADMINISTRATION.			
Director	"C"	Colonel G.W. Heron, C.B.E., D.S.O.,	Hqrs. J'lem
Deputy Director (Hospital and Medical Section)	"E"	J.W.P. Harkness	"
Deputy Director (Laboratory Section)	"E"	G. Stuart, O.B.E.	"
Senior Medical Officer at Hqrs in charge of Sanitary & Epidemic Section	"F"	A. Rankine, M.C.,	"
Senior Medical Officer (Jerusalem District)	"F"	W.P.H. Lightbody	Jerusalem
Senior Medical Officer (Jaffa and Gaza Districts)	"F"	V.L. Ferguson	Jaffa
Senior Medical Officer (Haifa and Quarantine)	"F"	J. Macqueen	Haifa
Senior Medical Officer (Samaria and Galilee)	"F"	W.K. Bigger, M.C.,	Nablus
Senior Medical Officer (Endemic Diseases)	"F"	N.M. Maclennan	Hqrs. J'lem
Senior Medical Officer (Railways)	"F"	J.H. Thompson	Haifa
Surgeon Specialist	"F"	W.E. Thompson	Jerusalem
Inspector of Pharmacies	"K"	F.I. Haddad	Hqrs. J'lem
Chief Clerk	"K"	C. Morrall	"
Storekeeper	"L"	A.B. Heron	"

Appointment.	Grade.	Name.	Station.
HOSPITAL AND MEDICAL SERVICE.			
Asst. Senior Medical Officer (Hospital, Ophthalmic Clinic and Schools)	"H"	D. Bulos, M.B.E.,	Gaza
Asst. Senior Medical Officer (Training School)	"H"	H.F. Khalidi	Jerusalem
Medical Officer (Hospital)	"K"	Y. Hajjar	Jerusalem
Medical Officer (Mental Hospitals and District)	"K"	M.S. Maloof	Bethlehem
Medical Officer (Hospital & Laboratory)	"K"	R. Reitler	Jaffa
Medical Officer (Casualty Post, Ophthalmic Clinic and Schools)	"K"	S. Bodossian	Er-Ramle
Medical Officer (District, Ophthalmic Clinic and Schools)	"K"	F.I. Haddad	Acre
Medical Officer (Hospital & Schools)	"K"	H.S. Khalidi	Jaffa
Medical Officer (Schools)	"K"	K. Kesheshian	Jaffa
Medical Officer (Hospital, Ophthalmic Clinic and Schools)	"K"	N. Hamzeh	Nablus
Medical Officer (Hospital and Ophthalmic Clinic)	"K"	A.T. Sternberg	Safad
Medical Officer (Hospital)	"K"	I. Itayim	Haifa
Medical Officer (Ophthalmic Clinic)	"K"	S. Shihab	Hebron
Medical Officer (Hospital & Laboratory)	"K"	A. Malchi	Haifa
Medical Officer (Casualty Post, Ophthalmic Clinic & District)	"K"	S. Saleem, O.B.E.,	Beersheba
Medical Officer (Schools)	"K"	K. Eid	Jerusalem
Medical Officer (Ophthalmic)	"K"	K. Budeiri	Majdal
Medical Officer (Ophthalmic)	"K"	D.K. Michail	Jerusalem
Matron	Special	Miss I.E. Cowan	Jerusalem
,,	,,	Miss L.J. Hanson	Nablus
,,	,,	Miss E. Davies	Haifa
,,	,,	Miss I.G. Cooper	Jaffa
,,	,,	Miss M.G. Sutherland	Safad
Matron, Mental Hospital No. 1	,,	Miss F.I. Channell	Bethlehem
,, ,, ,, No. 2	,,	Miss A.A. Byrne	,,
British Nursing Sister	,,	Miss L.B. Walker	Jerusalem
,, ,, ,,	,,	Miss L.B. Fielder	Jaffa
,, ,, ,,	,,	Miss H.M.P. Roulstone	Jerusalem
,, ,, ,,	,,	Miss I.M.L. Budd	,,
,, ,, ,,	,,	Miss J.H. Green	,,
,, ,, ,,	,,	Miss W.M. Farrer	,,
British Nursing Sister (Mental Hospital No. 2.)	,,	Miss J. Hadden	Bethlehem
British Nursing Sister	,,	Miss O.C. Browne	Haifa
,, ,, ,,	,,	Miss A.M. Baraball	,,
Superintendent of Midwifery	,,	Miss E. Dickin	,,
,, ,, ,,	,,	Miss V.W.E. Rogers	Jerusalem
,, ,, ,,	,,	Miss C.M. Beville	Nablus
SANITARY AND EPIDEMIC SECTION.			
Sanitary Engineer	,,	M.Y. Samaha	Hqrs. J'lem
Sanitary Engineer	,,	Vacant	,,
Asst. Sanitary Engineer	"K"	G.R.P. Witts	,,
Asst. Senior Medical Officer	"H"	R. Oplatka, M.B.E.,	Tel-Aviv
,, ,, ,, ,,	"H"	H. Abu Rahmeh, M.B.E.*	Amman
,, ,, ,, ,,	"H"	M. Shishmanoglou, M.B.E.,	Haifa
Medical Officer	"K"	J. Tucktuck	Nazareth
,, ,,	"K"	Z. Haddad, M.B.E.	Nablus
,, ,,	"K"	F.K. Abla	Majdal
,, ,,	"K"	A. Abdel-Al, O.B.E.,	Hebron
,, ,,	"K"	A. Abu Ghazaleh	Jenin

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* Seconded as Director of Public Health, Trans-Jordan.

Appointment.	Grade.	Name.	Station.
Medical Officer	"K"	G.E. Ayoub	Jaffa
" "	"K"	I. Haurani	Ramallah
" "	"K"	M.A. Shukair	Jerusalem
" "	"K"	Taher el Khatib	Tulkarem
" "	"K"	M.K. Mishalany	Jaffa
" "	"K"	A.A. Shehadeh	Haifa
" "	"K"	F. Shubeita	Jaffa
" "	"K"	A.M. Shehadeh	Jerusalem
" "	"K"	E. Sukkarieh	Safad
" "	"K"	A.I. Haddad	Er-Ramle
" "	"K"	A.A. Sururi	Jerusalem
" "	"K"	H.M. Torian	Tiberias
" "	"K"	A.K. Khartabil	Gaza
" "	"K"	J.M. Shapiro	Haifa
" "	"K"	S. Bisharah	Jerusalem
" "	"K"	S. Livni	Jerusalem
QUARANTINE SECTION.			
Medical Officer	"K"	Y. Chami, M.B.E.,	Jaffa
" "	"K"	B. Franco	Haifa
LABORATORY SECTION.			
Government Analyst	"G"	G.W. Baker	Hqrs. J'lem
Bacteriologist	"K"	K.S. Krikorian	"
Asst. Bacteriologist	"K"	M.S. Dabbagh	"
Asst. Analyst	"K"	W.J. Itayim	"

Training of Personnel.

2. Dr. J. Macqueen completed the course and obtained the Diploma of Public Health (Edinburgh University).

Study leave was granted to Dr. V. L. Ferguson and Dr. Khalil Abu Ghazaleh to allow them to take the course for the Diploma of Tropical Medicine and Hygiene at the London School of Tropical Medicine and Hygiene.

During the year seven nurses of the Department completed their training and qualified as graduate nurses.

Ten graduate nurses and seven pupil midwives were trained in the Government Maternity Centre and awarded the Certificate of Midwifery.

The following personnel were given training in ophthalmic work at the St. John (Ophthalmic) Hospital, Jerusalem :—

One Medical Officer one month's training, Four nurses 4 months training, and Two Medical Officers and 7 nurses were given refresher courses.

Ten tamurgies had 4 months' training in Ophthalmic Work in Ophthalmic Centres.

The following personnel were trained and examined in First Aid, and awarded the certificate of the St. John Ambulance Association,

Department of Health Personnel	13.
Police	141.
Others	8.

During the year, a Departmental elementary course of instruction in sanitation was held. The course was attended by 14 of whom 7 successfully passed the examinations in the various subjects.

Ordinances, Regulations etc.

3. The following ordinances and regulations affecting the Department have been enacted during the year.

Education Ordinance 1933. Sanitary Inspection of Schools — enacted in Gazette No. 337 of 5-1-33.

Quarantine Ordinance 1922. General Quarantine Regulations and Dues and Fees.

Customs Ordinance 1929. Order regarding the importation of butter, samneh, artificial butter (margarine) and artificial samneh, to conform to certain standards of purity and to be correctly labelled and invoiced.

Intoxicating Liquor & Public Entertainment Ordinance 1922. Amendment of Section 2—Licensing authority may refuse to issue or renew a license.

Trades & Industries Ordinance 1927. Addition of Glue Factories to Sub-class C of Class 1 of the Schedule.

Dangerous Drugs Ordinance 1925-28 — Enactment of Amendment published in Gazette No. 334 of 29-12-32 viz: "Import of Dangerous Drugs is an offence unless previous permit has been obtained".

Diseases of Animals Ordinance 1926—Animal Burial Rules (Revoking Rule 14 of the Principal Rules).

Weights & Measures Ordinance 1928 — Amendment Bill for postponing the general application of the Ordinance to the country. Enacted in Gazette No. 383 of 24-8-33.

Immigration Ordinance 1933 — Medical examination and vaccination of immigrants. Enacted in Gazette No. 385 of 31-8-33.

Medical Practitioners Ordinance 1928 — Regulations: regarding Lost Licenses.

Notice repealing the prohibition of import of products of Messrs. F. Hoffman La Roche and Company.

Notice for registration of British Births and Deaths — Empowering District Commissioners to act as Registration Officers.

Trade & Industries Ordinance 1927 — Order transferring para. A "Hawkers" from Class I to para B, Class II of Schedule I.

Slaughter house rules made by the Petah-Tiqva Local Council under Rule 30 of the Slaughter House Rules 1927, viz: Licensing of persons engaged in the slaughter-house.

Medical Practitioners Ordinance 1928—Regulations re Certificates of incapacity to appear in Court on account of sickness.

Quarantine Ordinance 1922—Regulations 1933—Overtime Fees.

Trades & Industries Ordinance 1927 — Additions to Class I A & B of the 1st Schedule: Patent Foods, Milk products and Toilet Article Factories.

Revenue and Expenditure.

4. The following is a summary of the estimates and expenditure for the financial year 1933-34. The comparative total figures of estimates and expenditure for previous years are given below:—

Revenue:	Expenditure:	
1-4-33 to	A. Personal Emoluments	£P. 89,734
31-3-34 — £P. 11,540	B. Other Charges	£P. 47,420
		£P.137,154

DETAIL OF OTHER CHARGES.

	£P.
Cost of Living Allowances	2886
Transport & Travelling	6832
Railway Fares & Freight	1500
Lighting & Heating	1787
Drugs, Dressings & Instruments	5568
Vaccine & Sera	950
Equipment & Stores	2545

	£P.
Disinfectants & Maintenance of Disinfecting Machines	1655
Hospital Diets	8000
Clothing	1711
Epidemic Outbreaks	200
Antimalaria Measures	500
Medical Attendance in Private Hospitals	600
Relief	50
Contribution to Jewish Health Services	3700
Contribution to Tropical Diseases Bureau	60
Contribution to Seamen's Hospital	11
Contribution to Colonial Medical Fund	35
Contribution to Ross Institute. London	25
Fees for notification of births & deaths in villages	500
Medical Library	80
Allowances to officers attending courses of Instruction	250
Telegrams, Telephones and Postage	1300
Allowance to Medical Officer of Sinai Military Railways	50
Contingencies	100
	40895

SPECIAL EXPENDITURE.

Motor Disinfecting Lorry	321
Typewriters	25
Motor Ambulance	986
Tentage	210
Furniture & Equipment, Nablus Infectious Pavilion	365
Furniture & Equipment, Safad Hospital	950
X-Ray apparatus & Electrical equipment	450
Lorry & Trailer for Ophthalmic Mobile Unit	1750
Equipment & Furniture for Ophthalmic Scheme	260
Drugs, Dressings & Instruments for Ophthalmic Scheme	250
Boring Apparatus and Blades	30
Matting and Frames for Shelters	50
Tentage for Ophthalmic Mobile Unit	250
Weights & Measures' Outfits & Equipment	328
Village Sanitation	300
	47420

Year	Revenue	Expenditure		
		Personal Emoluments	Other Charges	Total
1932-33	10,330	81,050	33,951	115,001
1932 (1st quarter)	2,488	19,785	7,591	27,376
1931	9,950	79,140	32,201	111,341
1930	9,860	76,143	32,408	108,551
1929	10,350	73,694	29,885	103,579
1928	10,480	74,080	31,380	105,460
1927 (9 months)	7,320	52,948	24,955	77,903
1926-27	13,830	68,987	28,692	97,679
1925-26	9,050	63,140	21,341	84,481
1924-25	9,570	61,791	20,632	82,423
1923-24	11,590	64,226	29,032	93,258
1922-23	8,720	72,508	32,860	105,368
1921-22	8,158	70,914	82,795	*153,709
				* Less estimated cost of Railway Medical Service £P.10,824

The Palestine Government estimates of revenue and expenditure for the financial year under review were as follows:—

Revenue — £P.2,859,745. Expenditure:— £P.2,848,418.

The estimated expenditure of the Department is, therefore, 4.8% of the total estimated expenditure of the Government.

Finance.

General.

5. The estimated expenditure for 1933 was £P.22,153 in excess of that of 1932. Normal increments of salary accounted for £P.1189 and special expenditure for £P.6525.

The principal items of additional recurrent expenditure were on:—

(a) Tuberculosis & Endemic Diseases Expert . .	£P.1000
(b) Two additional Superintendents of Midwifery .	£P. 576
(c) District Nurses for Infant Welfare	£P. 270
(d) Extension of the Ophthalmic services in Southern District—3 M.O's, nurses, tamurgis etc. . . .	£P.2012
(e) Medical Officer, Matron, nurses, pharmacist and subordinate staff for the establishment of Safad Hospital of 25 beds for Typhoid & Dysentery, and urgent cases	£P.1490
(f) Contribution to Jewish Health Services . .	£P.3700
(g) Sanitary Labour for the commencement of the establishment of latrines in villages . . .	£P. 782
(h) Other charges incidental to the development of the above services	£P.2254

Under Special expenditure, the principal credits allocated to the Department were for:—

(a) Motor Disinfecting Lorry to replace horse vehicles	£P. 321
(b) Two motor ambulances to replace 2 unserviceable	£P.1052
(c) Furniture & Equipment — Nablus Infectious pavilion	£P. 365
(d) Furniture & Equipment — Safad Hospital . .	£P.1450

(e) X-Ray apparatus and electrical equipment . .	£P. 450
(f) Lorry & Trailer for Ophthalmic Mobile Unit .	£P.1750
(g) Equipment & Furniture for Ophthalmic Scheme .	£P. 260
(h) Drugs, Dressings & Instruments for Ophthalmic scheme	£P. 250
(i) Tentage for Ophthalmic Scheme	£P. 250
(j) Weights & Measures outfit etc.	£P. 328
(k) Village sanitation materials for latrines . .	£P. 600

There were in addition to the above special developments, some minor additional credits allowed for necessary expansion of Hospital and Dispensary personnel, for Quarantine overtime fees, for preparation of vaccine and sera, and renewal of unserviceable tentage.

The cost of living allowances at £P.2886 appear for the first time on the Department of Health estimates instead of on Miscellaneous.

Hospitals.

6. There were no additions to the Voluntary Hospitals maintained by Societies, but several small hospitals or nursing homes were opened by private practitioners. Chief amongst them are the following:—

Nursing Home — Dr. F. Dajani, Jaffa.
Maternity Hospital — Dr. E. Remen, Petah-Tiqva.
Maternity Hospital — Dr. R. Wilenchik, Jerusalem.
Surgical & Maternity Hospital — Dr. Sadowsky, Jerusalem

The establishment, on proper lines, of such private hospitals is encouraged, as they tend to relieve the Voluntary Organisations which have in nearly all cases felt the prevailing financial depression in Europe and America. This is particularly so in the case of the Hadassah Medical Organisation whose credits from America and elsewhere have shown a serious decline.

It has been on account of the reduction in Hadassah's contribution that the Government has been engaged during the year in attempting to reorganise the administration of the Tel-Aviv Municipal Hospital on more economical lines and, at the same time, to arrive at a basis of Government financial assistance similar to that given to Municipal Hospitals elsewhere.

The agreement with the Nablus Watan Hospital Committee was reviewed and revised, and placed on a satisfactory financial basis.

Water Supplies and Drainage.

7. Credits for Public Water Supplies in towns with Municipalities were negotiated with success for Jerusalem and Haifa, and will appear in the loan schedule.

Credits for completion of the main drainage of Jerusalem and for the main drainage of Haifa were under negotiation, and were included in the loan schedule.

In the case of both water supplies and drainage for these two towns credits were approved from the Colonial Development Fund under whose terms interest and amortisation are waived for a period of years while the projects are under development and before they are earning revenue.

A sum of £P.7000 was placed at the disposal of the Village Water Supply Committee, of which the Director, Department of Health was Chairman, to furnish credits for the emergency improvement of existing water supplies in villages where, owing to the drought of two years, water was scarce. Villages were enjoined to supply free labour and 50% of the cost of the improvement or such less percentage as might be decided by the District Commissioner. Approximately 90 supplies were improved at a cost of £P. 5744 chiefly in the hill villages and settlements where water was particularly scarce, and the additional supplies conserved or developed in many cases were very considerable. The total repayment by villages is not expected to exceed £P.980 owing to the general poverty.

Provision for Municipal scavenging services tended to remain at the same level in spite of considerable expansion of the chief towns. Overhead charges appearred in some cases, to consume too large a proportion of their revenues.

Building Development.

8. Town planning has advanced satisfactorily, but Municipalities have no credits for expropriation of land for public purposes such as gardens, parking spaces etc., nor have they credits for reconstruction of slum areas nor for construction of workmen's dwellings so essential in Haifa and Jaffa-Tel-Aviv.

The result has been that public open spaces provided in Town Planning Schemes have almost invariably to be surrendered for building purposes on account of the lack of credits available for their expropriation by the Local Authority.

There was no credit granted for the much needed Infectious Hospitals in Jerusalem or Haifa, nor a reopening of the credit for the new Mental Hospital which has been urged by the Department.

House construction has developed to an unbelievable extent in Haifa, Jerusalem and Tel-Aviv indicating a measure of prosperity amongst all classes of the urban community.

The poverty in most villages did not allow of any material improvement of private property. Some of the Jewish settlements showed progress in public services and permanent construction of their temporary buildings.

The slow progress in formation of local councils, delays the development of public services. Without local councils and local taxation, credits are not available for any such advances.

Public Health.

Economic conditions affecting public health.

9. Palestine is said to be one of the few prosperous countries in the world, yet the agricultural population which comprises more than half the total, is living in conditions of poverty. The abolition of conscription and of the more serious epidemic diseases, the great diminution of the incidence of malaria and the improvement of health conditions generally has resulted in a large and rapid increase in the population to which immigration has also contributed, and the area of land per head of population has tended to decrease. The farmer has suffered a succession of bad agricultural years and has been hard put to it to withstand the strain.

The Arab fellah lives to a great extent on bread, milk products, vegetables and olive oil. A year, therefore, like the last, in which crops, cattle, and olives all failed, resulted in conditions bordering in some cases on starvation, and it was very surprising that there was not more sickness.

Except in the citrus growing area on the coast, the conditions in the Jewish settlements were not very much better than those in Arab villages. The natural increase of the Jewish population is not so great as that of the Arab, but it has been augmented by immigration and in consequence a decrease in the amount of land available per head of population tended to result here also.

While the Arabs were actually on the border of starvation, the Jewish settlers suffered from extreme poverty. The poverty of the population had a direct reaction on the work of the Department of Health in villages. It requires a very hard hearted inspector to prosecute people whom he knows to be starving and on whom a fine merely adds to the load of debt. In consequence, there was a definite decrease in the cleanliness of villages and in the standard of mosquito-proofing of cisterns.

The problem of water supplies was the greatest difficulty of the year. Many villages depend entirely on rain-water cisterns, and the majority were not filled last winter. The majority of the springs, in the hill country, dried up in the early summer. It was common for villagers to travel five to fifteen kilometres each way for water, and a gallon a head daily for all household purposes was the rule rather than the exception. In spite of everything the vital statistics for the year were relatively good.

Birth & Death rates.

10. The birth rate was 44 per 1000, the death rate 20 per 1000, and infant mortality 144 per 1000 births.

In each of the three separate communities—Christians, Moslems, and Jews, there was a decline in the death rates, while the birth rates were maintained at the level of the preceding year. There was a general reduction in the infant mortality rates viz :- Moslems 156 compared with 164; Jews 80, compared with 85; and Christians 128, compared with 141, in 1932.

The expansion of infant welfare, the availability of clinics and hospital beds, the special antimalarial and epidemic measures and the financial assistance given by Government to villages to improve and augment the village water supplies, all had their effect in a reduction of death rates during the worst year that the rural population of Palestine has experienced since the Occupation.

The death rates for the Moslem population at 24 per thousand is yet very high compared to European standards, but until the abject poverty of the mass of Arabs is overcome, certain of the age old customs and habits of living of the lower class are surmounted, and medical assistance, water supply improvement and sanitation are extended to the villages, that high death rate will persist.

Short of the formation of Local Councils and the provision of local funds to allow of the development of adequate sanitary service in villages and settlements this cannot be achieved.

Effect of Epidemic Diseases on Public Health.

11. I stated in my 1932 report that "there is a vast amount of disease amongst the rural population in certain areas and in the old slum areas of towns". Our provisional survey of tuberculosis has already revealed a high, and often concealed, incidence of this disease. Hookworm is sapping the strength of a very large proportion of the villagers of the maritime plain, and endemic syphilis is rife in certain areas. Malaria is no longer the serious menace of the past. It is confined to certain well known rural areas and is relatively banished from the towns. Epidemic diseases, with the exception of measles, have been of no serious menace and any threatening outbreak has been controlled by the Department's epidemic service.

It is, therefore on endemic diseases and on infant welfare that it is necessary to concentrate in order to reduce the high death rate and infant mortality, amongst Arabs in particular.

The Jewish death rate is low at 9.27. This can be ascribed to two factors. The immigrant population is a selected one and, in general youthful. The Jews have the advantage of very extensive medical and infant welfare services, financed largely by contributions from abroad, or by subscriptions from labourers and employees to a health fund.

Developments affecting public health.

12. Developments of the Department for which credits were granted in 1933 were in the direction of improved sanitation for villages and settlements, expansion of the Infant Welfare and Maternity services, and the treatment and prophylactic sanitary measures for hookworm, while credits for the survey and preparation of a scheme for a campaign against tuberculosis were made available.

2254 ~~2653~~ bored hole and 546 ~~571~~ tar barrel latrines in villages were completed by the Department, a considerable proportion in hookworm infected villages, where specific treatment was also accorded.

Superintendents of Midwifery and Child Welfare were appointed at Haifa and and Jaffa, and 3 Infant Welfare Centres opened.

Treatment of endemic syphilis in Hebron District was continued.

Emergency improvement of water supplies was effected in a large number of villages and colonies from special credits voted on account of the drought, and new sources discovered and old sources developed. A large credit will be made available in 1934 for permanent improvements to Village Water Supplies, and this should have a salutary effect on the population, and tend to reduce the incidence of water-borne disease.

A large compaign is in preparation for the establishment of village latrines in 1934 and a Field Sanitary Engineer and staff appointed to carry out the work of installation of some 6000 bored hole and tar barrel latrines. The experience of 1933 indicated that in most Arab villages the household latrine was appreciated and used, and defaecation in lanes and in the vicinity of the village was less noticeable. Habits of centuries, however, are difficult to overcome.

The expansion of the ophthalmic service in the Southern District, with special reference to the campaign against acute conjuctivitis, which has been responsible for so much blindness, was put into effect early in July, and consisted of additional ophthalmic clinics at Majdal and at Hebron, and 6 subsidiary village clinics under trained medical orderlies, visited and supervised by the Medical Officer of the Central Clinic. A new clinic was also established at Safad. The number of ophthalmic cases seen at the three new central and subsidiary clinics was 21426 new cases and 162715 attendances. This compares with a total of 26655 new cases and 276362 attendances seen at preexisting clinics throughout Palestine, and the scope of the Departments' ophthalmic work was, therefore, increased considerably. The Department is preparing for further expansion of the work in 1934 for which a Mobile Unit consisting of a fitted lorry and tent attachment, and a trailer for nurses will be available.

School Hygiene.

13. The School hygiene and ophthalmic work was continued satisfactorily. 2495008 treatments were accorded to school children.

The School Medical Service for Jews continued to be conducted by the Hadassah Medical Organisation and a credit was granted by Government towards this service. A credit was also given by Government to the Jewish Vaad Leumi to assist them in conducting their Infant Welfare Work in the Jewish community. Both ophthalmic clinics and infant welfare centres conducted by the Department are available for all communities, but the attendance at the former are principally Arabs on account, firstly of the more extensive infection amongst them, and secondly of the availability of clinics established by Jewish organisations for eye diseases.

Improvement of hospital facilities.

14. Hospital facilities were improved in Eastern Galilee by the establishment of a Government Hospital of 25 beds at Safad to deal, principally, with enteric fever and dysentery for the whole of that area, including Tiberias. A building situated close to Safad, in an ideal situation overlooking the Sea of Galilee 2800 ft. below, was reconstructed and adapted. The Hospital proved of great value and accommodated considerable numbers of cases of communicable disease from amongst all communities.

The construction of the Isolation Section at Nablus for 14 beds was nearly completed. The pupil midwives section at the same hospital was commenced, and the Hospital Committee financed the alteration of a part of the Hospital building to provide for an X-Ray Section and the Pharmacy.

Reconstruction at Jaffa Lazaret is proposed for 1934 to provide expansion for enteric and other communicable diseases, and abandonment of the Lazaret for Quarantine purposes which are now provided for at Haifa is envisaged.

Hospital beds for general diseases in the principal towns were sufficient for the needs of the population, and, except for a period during the summer, at Nablus and at Jaffa, the accommodation for enteric fever sufficed. There was, however, no reserve for epidemic conditions, and at Jerusalem, there is no infectious accommodation beyond the 11 beds for isolation of suspect cases at the General Hospital. Palestine has been fortunate during the last few years in the absence of epidemics.

Several private hospitals have been constructed or established in adapted buildings.

If immigration proceeds at the present rate, it will be necessary to increase the hospital provision in the towns now growing up on the Jaffa plain.

The rapid increase of the Arab population will also necessitate expansion of Hospital Services generally and more particularly in the Haifa, Jenin, and Ramleh sub-districts in the last of which the need for a hospital is serious. The Department provides out-patient clinics for the people there, but that is not sufficient.

Communicable Diseases.

Epidemics.

15. The most serious occurrence during the year was an outbreak of smallpox amongst Bedouins in the Gaza and Majdal sub-districts. The disease was definitely traced from Sinai, imported during the customary movement of tribal groups across the border during the harvesting season.

There were two centres of infection, amongst tribes camped in the open country near Majdal, and in a small "hamlet" near Gaza to which a contact of the tribe had returned. 31 cases occurred, one of which proved fatal.

The outbreaks were quickly circumscribed, and extensive revaccination carried out throughout the area and amongst the Arab tribes south of Gaza and Beersheba, with the result that successful curtailment was achieved of what threatened to be a serious epidemic. They were the first cases that had occurred in Palestine for 5 years.

Measles, diphtheria, scarlet fever, whooping cough, chicken pox, and pneumonia showed little change in prevalence from the preceding year and there were no serious epidemics.

The incidence of anthrax at 39 cases with 9 deaths, compared unfavourably with 17 cases and 3 deaths in 1932.

There were fewer cases of typhoid and dysentery than in 1932, a fact which is of interest since the water famine during the year compelled the use of many sources of doubtful purity. The majority of cases occurred amongst Jews but the routine inoculation of Jewish immigrants appears to have been of value in controlling the spread of the disease.

In Jaffa—Tel-Aviv and sub-district the cases increased by $18^0/_0$. No improvement can be expected until a solution is found to the problem of housing with satisfactory water supply and drainage. Insanitary barrack areas are spreading and will continue to do so until provision is made for housing of immigrants and labouring classes.

Endemic Diseases.

16. Water shortage and failure of forage led to transfer of animals and villagers to areas in the Jordan valley and the Ghor, south of the Dead Sea, which are not under antimalarial control. This circumstance led to several sharp epidemics of malaria amongst certain villages. The lowering of the water level of the Sea of Galilee by the combined effect of drought and the operation of the hydro-electric works at the southern outlet of the lake to the Jordan, has created malarial conditions for some 20 miles around the lake shore extremely difficult to deal with effectively.

Work was continued on the campaign against hookworm disease in the Jaffa sub-district. Several of the most highly infected villages were completely equipped with the bored hole latrines, and mass treatment of the inhabitants undertaken. Credits were limited for this commencement of the latrine installation, but during 1934, it is expected to deal with a larger number of villages and orange grove areas, where the disease was becoming of serious economic significance.

The survey of tuberculosis was recommenced on the arrival in the autumn of the Expert for Tuberculosis and Endemic Diseases. It is too early as yet to give any results but it was quite clear from the partial and preliminary survey made in 1931 that the incidence of the disease in certain Arab towns and villages, and to a lesser extent amongst the Jews, is serious, and that it is imperative that measures be taken to deal with it. Apart from an accommodation for some 40 Jewish cases at the Hadassah Hospital at Safad, there is no means of treatment available. General Hospitals naturally refuse admission to tubercular cases except, perhaps, to bone and articular cases.

Endemic Syphilis in Hebron received attention, but not on so large a scale as the incidence of the disease demands.

Infectious Hospitals.

17. The hospital provision for communicable disease was improved by the establishment of the Safad Government Hospital, designed primarily to take in typhoid and dysentery cases, and the construction of the Isolation Section at Nablus, where the incidence of enteric rose last year, will ease the situation in that district.

The situation as regards isolation at Jerusalem, as stated above, did not improve.

At Haifa, all typhoid and serious infectious cases were admitted, but improvement of our facilities will, in due course, be required. The temporary building occupied is unsatisfactory and isolation is difficult.

Now that the Port of Haifa is complete and vessels moor alongside the quays, we have to expect the introduction of plague infected rats.

With the housing situation in its present deplorable state, and the extreme difficulty of preventing the construction of wooden and kerosene tin shacks, plague once introduced will play havoc with the poor elements of the population.

Industrial Conditions.

Trades affecting Public Health.

18. A great development occurred in the three larger towns in the establishment of shops and minor industries in connection with food and beverage supply. The standard of new shops was in general well maintained, and many improvements to old shops were carried out.

Small factories for canning of fruit and bottling of orange and lemon juice were opened and their products attained much popularity. The tendency has been to start on a small scale and allow too little space for expansion.

The milk trade on the cooperative system developed, and although distribution centres and retail establishments in towns are under suitable supervision the rural cowsheds and dairies were in general very unsatisfactory both in Arab and Jewish centres. Some of the Jewish cowsheds construction was very good, but maintenance and cleanliness were deplorable.

In no case were conditions such that graded milk could be produced. These uncleanly conditions, due to habits of the people so difficult to overcome, tend to defeat the principles of pasteurization of milk, which is, in England and America and on the Continent in general, designed to deal with a milk produced under reasonably hygienic conditions, and not designed for sterilizing a highly contaminated milk.

Housing.

19. House construction advanced rapidly and the type of house was of a high standard, well planned and built, adequately ventilated and provided with first class baths and sanitary installations.

The Arab is demanding just as high a standard of sanitary installation as the Jew and his design and stone construction are better for the climate than the somewhat ultra modern design and concrete construction favoured by the Jews.

New areas of development in provincial towns are tending to relieve that overcrowding that was so general a few years ago.

In the previous section I have spoken of the deplorable growth of shacks and temporary buildings. This situation which applies especially to Haifa and Tel-Aviv can only be met by the provision by the Local Authority or by private enterprise of workmen's dwellings in selected areas.

Municipal Sanitary Services.

Water Supplies and drainage.

20. Considerable progress was made in the elaboration by the Director of Public Works of water supply and drainage schemes for Jerusalem and Haifa. Credits are likely to be available in the near future from loan funds, and in the meantime credits have been allocated in advance from surplus balances towards the Jerusalem Water Supply from Ras-el-Ain and pipes and material ordered.

Careful observations and analysis have been made by the Department of the water sources at Ras-el-Ain and a decision arrived at to draw from a protected spring which will not require filtration. A reserve chlorinating plant will, however, be installed.

Sources for the water supply for Haifa have been under examination.

A plan for development of the water supply of Jaffa was prepared by the Municipality and scrutinized by the Department.

Nablus water supply scheme was completed, and Gaza, Nazareth and Hebron have plans for improvement of supplies.

The project for the completion of the main drainage for Jerusalem has been elaborated. The plans for the Haifa main drainage scheme were almost completed. The plans for several important developments in drainage were drawn up for Jaffa and Tel-Aviv, but complete main drainage of these adjacent towns is not envisaged at present, though very desirable.

Scavenging and disposal of refuse.

21. The scavenging services of the larger towns was carried out fairly satisfactorily. There is still too much concentration on main streets and a tendency to overlook the subsidiary roads and outlying quarters. Expansion of the towns is not met by an equal expansion of the scavenging service. Disposal of refuse is satisfactorily carried out at the new destructor at Jerusalem, and at the old installations at Haifa and at provincial towns, but the dumping of Tel-Aviv refuse is very unsatisfactory.

The fine new slaughter-house at Jerusalem was taken into use, and the very good slaughter-houses at Jaffa and at Tel-Aviv were well maintained. Haifa requires much improvement. The majority of small Municipalities have provided small but satisfactory installations.

Very valuable work in scavenging improvements, house drainage, and in sanitary installations, in houses controlled under the Building Permit Regulations issued by the Town Planning Commission was carried out by the British Sanitary Surveyors in the principal towns. The remarkable advance in recent years of the standard of house installations is chiefly due to their diligence and supervision in regard to public health requirements. The establishment of main water supplies and drainage, now definitely projected, will render their task easier.

Urban Trades.

22. The control of Trades and Industries, which is vested in the Department of Health with assistance of non-technical personnel supplied by larger Municipalities was well maintained. The large increase of shops and small industries for the manufacture of food products and beverages has greatly increased this section of the work.

There has been a tendency recently on the part of manufacturers to build premises and conduct their trades outside Municipal areas, partly on account of the high price of urban sites and partly in order to escape local taxation.

Urban Antimalaria control.

23. Antimalaria control in urban areas, carried out by the Department, with the assistance of labour supplied by the Municipalities, continued to be uniformly successful, and the number of cases developed in towns was negligible. The work involved in achieving these conditions was, again, considerable. In Tiberias alone, owing to exceptional conditions, was the incidence of malaria serious.

Town Planning.

Central Town Planning Commission

24. The Central Town Planning Commission was re-constituted, by order of the High Commissioner with effect from the 1st January, 1933.

Eighty seven Town Planning Schemes were dealt with by the Central Town Planning Commission and effect has been given to amendments to By-Laws.

In addition consideration has been given to appeals by aggrieved persons, and proposed amendments to the Town Planning Ordinances.

The Central Town Planning Commission in dealing with Town Planning Schemes considered the By-Laws controlling the heights of buildings and the Zoning as matters of primary importance in curbing the general tendency towards overcrowding, and in addition the provision of open spaces and parks in Town Planning Schemes was given particular attention. The matter of introducing Regional Planning has arisen in consequence of the large areas of land, particularly in the Jaffa and Haifa Districts, now being developed for building purposes and the Central Town Planning Commission considered that the situation which had arisen could only be effectively dealt with by Regional Control.

In addition to the procedure of dealing with Town Planning Schemes the following matters were under consideration:—

The Control of Temporary (Emergency) Buildings for which draft Regulations were compiled.

An amendment of the Town Planning Ordinances to allow contraventions of the terms of the Ordinance to be tried by a Magistrate's Court.

The Constitution of Regional Planning Areas.

The Constitution of additional Town Planning Areas.

Jerusalem

25. In the Jerusalem Town Planning Area thirty six schemes were dealt with of which twenty six were submitted during the current year. Fourteen schemes were passed for final approval and nineteen were provisionally approved. The Central Area Town Planning Scheme, the Bakka Scheme and a scheme for the amendment of the Outline Scheme in the matter of modifying the Light Industrial Zone, and Areas under modified control and the constitution of a Commercial Frontage Zone, came into enactment during the year; and a detailed development scheme for the Beit Israel Quarter was provisionally approved. The remaining schemes dealt with consisted of parcellation schemes submitted by the Municipality on behalf of private owners and modifications of enacted schemes.

Jaffa
Tel-Aviv.

26. In the Jaffa Town Planning Area twelve schemes were dealt with of which four were submitted during the current year. Three of these were submitted by the Municipality of Tel-Aviv. Three schemes were passed for final approval and four were provisionally approved. The Jaffa Outline Town Planning Scheme was enacted during the year and a scheme for Tel-Aviv prescribing Industrial Zones with a schedule of Trades and Industries was provisionally approved. The other schemes dealt with comprised schemes for amendments in Industrial and Residential Zoning, extension of Town Planning Boundaries, improvements of road junctions and road developments.

Haifa.

27. In the Haifa Town Planning Area thirty seven schemes were under consideration, twenty six being submitted during 1933. Eleven schemes were passed for final approval and seventeen were provisionally approved.

The schemes of special importance dealt with in this area were the Haifa Outline Scheme and the Port Reclamation Area Scheme both of which were passed for final approval. The schemes submitted consisted of parcellation and re-parcellation schemes, detailed schemes including one for an area adjacent to the Port Reclamation Area and for a middle class suburb.

Nablus.

28. The Nablus Town Planning Commission submitted By-Laws, for a previously approved Scheme, which were passed for enactment, and a detailed Town Planning Scheme.

Tiberias.

29. A parcellation scheme for the Town Planning Area of Tiberias was finnally approved and enacted and a further parcellation scheme was submitted for approval.

SECTION II.

Vital Statistics and Epidemic Disease.

Vital Statistics.

General.

30. The estimated mid-year population of Palestine at 30th June, 1933, was as follows :—

Moslems.	Jews.	Christians.	Others.	Totals.
789,980	209,207	95,165	10,532	1,104,884

These figures include Bedu tribes whose number is assumed to have remained constant since the census enumeration of 18th November, 1931.

The tables below give particulars of the settled population excluding the nomadic tribes, and indicate the manner in which the estimates for 1933 have been obtained.

The statistics of migration have been provided by the Director of Immigration.

ESTIMATE OF POPULATION ON JUNE 30th, 1933.

	Christians.	Moslems	Jews.	Others.	Totals.
Census of November, 1931 . . .	91398	759712	174610	10101	1035821
Deduct Nomadic Bedu Tribes . .		66553			66553
	91398	693159	174610	10101	969268
Deduct His Majesty's Forces . .	2491	12	4		2507
	88907	693147	174606	10101	966761
Add Natural Increase Dec. 1931 to 30-6-33	3161	28642	5881	428	38112
	92068	721789	180487	10529	1004873
Add Excess of Migration " " " "	3097	1638	28720	3	33458
Estimate as at 30th June 1933 . .	95165	723427	209207	10532	1038331

The classification of the estimated population by sex is as follows :—

ESTIMATE OF POPULATION ON JUNE 30th, 1933.

	Jews.		Non-Jews.		Totals.		Totals.
	Males.	Females.	Males.	Females.	Males.	Females.	
Census of November 1931	88100	86510	438580	422631	526680	509141	1035821
Deduct Nomadic Bedu Tribes			35422	31131	35422	31131	66553
	88100	86510	403158	391500	491258	478010	969268
Deduct His Majesty's Forces	3	1	2391	112	2394	113	2507
	88097	86509	400767	391388	488864	477897	966761
Add Natural Increase Dec. 1931 to 30-6-33	2984	2897	16641	15590	19625	18487	38112
	91081	89406	417408	406978	508489	496384	1004873
Add Excess of Migration Dec. 1931 to 30-6-33	14901	13819	2478	2260	17379	16079	33458
Estimate as at 30-6-33	105982	103225	419886	409238	525868	512463	1038331

On the basis of these estimates, the settled population has increased by 5.27% during the previous twelve months of which 2.56% is natural increase or excess of births over deaths, and 2.71% excess of immigration over emigration. In absolute figures, the combined effect of these increments of population has resulted in an increase of the Jewish population by 28,414 and the non-Jewish by 23,588.

In the former group, immigration is the predominant factor accounting for 46.6% of the increase during the year. In the non-Jewish section of the population immigration only accounted for 4.8% of the increase during the year.

Births, Deaths & Infant Mortality of the settled population.

31. The crude birth and death rates and the infant mortality rate for five years are shown below together with the absolute figures and the estimated population of each year.

Year.	Birth Rate per 1000 Living.	No. of Births registered.	Estimated population Midyear.	No. of Deaths registered.	Death Rate per 1000 Living.	Infant Deaths.	Infant Mortality i.e. Deaths of Children under 1 year of age per 1000 Births.
1929	46.32	41,742	901,090	21,632	24.00	7784	186.47
1930	48.03	44,587	928,158	19,513	21.02	6879	154.28
1931	48.07	46,011	957,191	21,149	22.09	7826	170.09
1932	44.14	43,538	986,329	21,958	22.26	6669	153.17
1933	44.38	46,089	1038,331	20,866	20.09	6656	144.41

So far as deductions from the crude rates can be made, the birth rate has remained stationary at 44 per 1000, the death rate was slightly lower at 20 per 1000, and the infant mortality rate fell from 153 to 144 per 1000.

CRUDE BIRTH, DEATH AND INFANT MORTALITY RATES BY RELIGIOUS GROUPS.

		Christians	Moslems	Jews	Other Religions	Whole Country
1929	Births	36.50	50.72	33.53	41.52	46.32
	Deaths	17.30	27.82	11.60	25.37	24.00
	Infant Mortality	155.79	204.91	89.78	166.66	186.47
1930	Births	37.65	53.16	32.95	42.80	48.03
	Deaths	15.66	24.60	9.47	18.25	21.02
	Infant Mortality	134.43	169.55	69.00	118.07	154.28
1931	Births	37.66	53.35	31.00	49.28	48.06
	Deaths	15.13	26.21	9.57	15.76	22.09
	Infant Mortality	133.53	187.52	81.60	113.36	170.10
1932	Births	36.44	48.96	29.21	43.67	44.14
	Deaths	15.90	26.31	9.65	22.27	22.26
	Infant Mortality	141.38	164.44	85.77	167.04	153.17
1933	Births	36.02	49.83	29.22	47.00	44.38
	Deaths	13.95	24.07	9.26	17.56	20.09
	Infant Mortality	128.38	156.80	80.48	143.43	144.41

The birth rate in the various communities has remained constant at 36 per thousand for Christians and 29 for Jews. The Moslem rate is slightly higher at 49.8 as compared with 48.9 in 1932.

Death rates have declined amongst Christians to 13.9 compared with 15.9 in 1932, amongst Moslems from 26 to 24 per thousand. Amongst Jews the death rate was 9.3 compared with 9.6 per thousand in 1932.

The infant mortality rate (the number of deaths of infants under one year of age per mille of recorded births) for the whole country—144—is lower than has been recorded in previous years.

Amongst Christians it fell from 141 in 1932 to 128. Amongst Moslems from 164 to 157, and amongst Jews from 86 to 80.

Classification of Causes of Deaths.

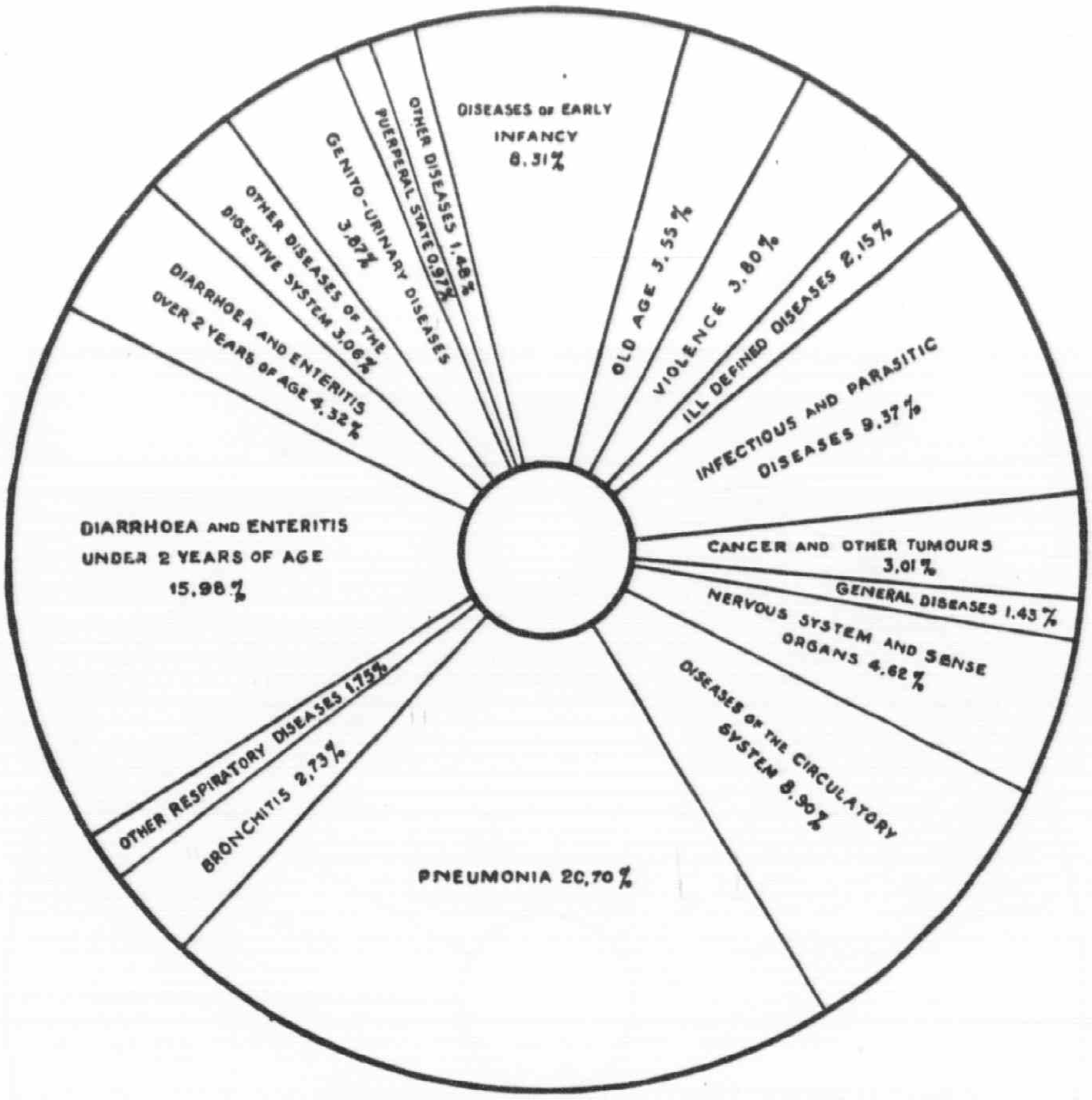
32. The International nomenclature is followed in so far as deaths occurring in towns are concerned, the cause of death being in such cases certified by a licensed medical practitioner. Of 7352 deaths classified amounting to nearly one third of the deaths notified in the country, 25% were due to diseases of the respiratory system, 20% to diarrhoea and enteritis the bulk of which occurred under 2 years of age. Diseases of early infancy claimed 8% of the deaths. Infectious and parasitic diseases 9%, and diseases of the circulatory system approximately 9%.

Of 1382 deaths attributed to infectious diseases throughout the country and notified as such, 30% were due to pneumonia, 27% to measles and 17% to tuberculosis.

These percentages refer to a selected group of deaths only and a deduction that they represent the prevalent force of mortality from these causes throughout the population should, therefore, not be made.

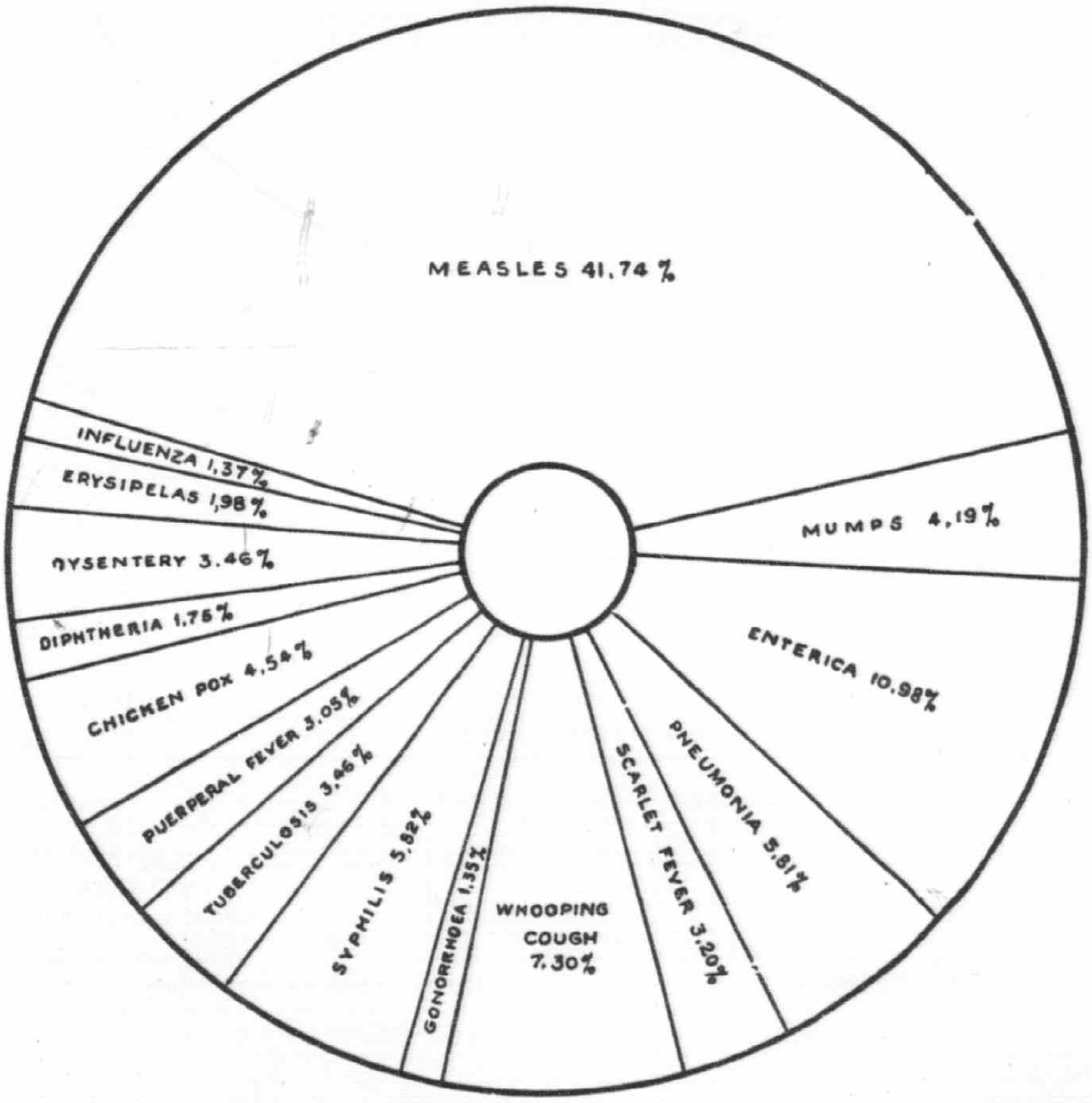
PROPORTIONS OF DEATHS FROM EPIDEMIC, ENDEMIC, INFECTIOUS, SYSTEMATIC AND OTHER DISEASES SHOWN AS PERCENTAGE OF TOTAL DEATHS IN ALL TOWNS OF PALESTINE, 1933.

TOTAL DEATHS = 7352.



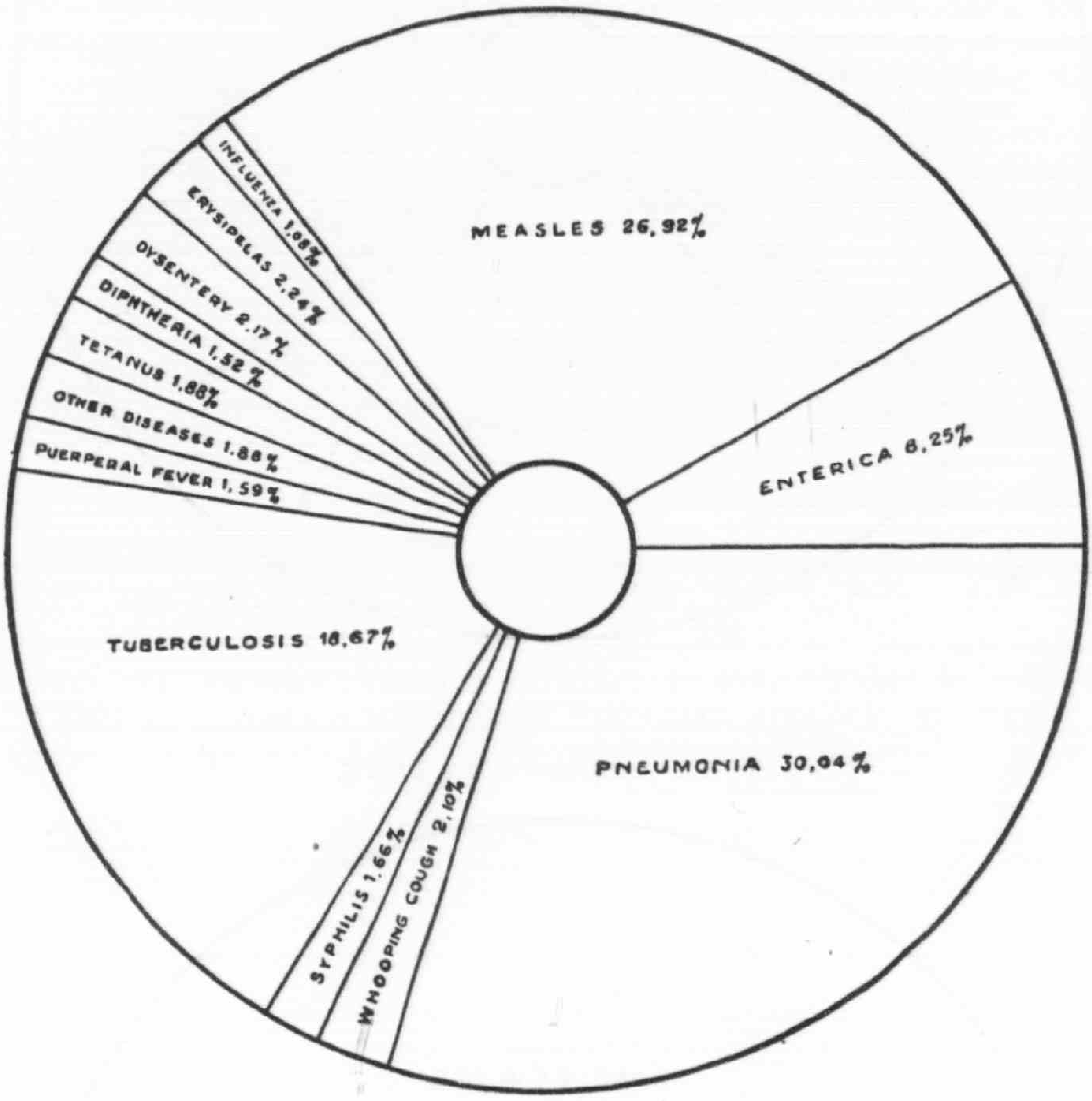
PROPORTION IN PERCENTAGES OF CASES OF EPIDEMIC, ENDEMIC AND INFECTIOUS DISEASES (MALARIA EXCEPTED) NOTIFIED IN PALESTINE IN 1933.

TOTAL INCIDENCE = 11973.



PROPORTION IN PERCENTAGES OF DEATHS FROM EPIDEMIC, ENDEMIC AND INFECTIOUS DISEASES (MALARIA EXCEPTED) NOTIFIED IN PALESTINE, 1933.

TOTAL DEATHS = 1382.



BIRTHS AND DEATHS - 1933.

Town, Village or District.	Jerusalem	District	Ramallah	District	Bethlehem	District	Hebron	District	Beersheba
DEATHS.									
Under 1 month	110	91	12	55	24	23	42	71	10
1 to 3 months	49	62	4	53	27	19	30	59	3
3 to 6 months	59	97	5	62	24	21	30	67	4
6 to 12 months	148	164	5	126	16	34	49	105	4
Under 1 year	366	414	26	296	91	97	151	302	21
0 to 5 years	597	805	46	605	120	181	298	953	48
5 to 10 years	35	35	2	29	3	7	7	69	6
10 to 15 years	37	15	—	9	4	1	6	25	1
15 to 20 years	20	7	—	2	4	2	3	9	1
20 to 25 years	42	16	—	11	6	3	9	17	3
25 to 30 years	50	15	1	11	7	4	10	25	1
30 to 35 years	42	8	—	12	1	1	5	24	1
35 to 40 years	48	18	1	11	3	3	6	16	—
40 to 45 years	38	13	2	19	3	3	6	20	1
45 to 50 years	29	14	1	11	2	—	4	12	1
50 to 55 years	46	18	3	13	2	—	5	22	3
55 to 60 years	44	11	—	6	1	6	3	9	—
60 to 65 years	79	18	1	12	3	2	7	23	3
Over 65 years	396	114	4	101	51	34	69	160	2
Unknown	—	—	—	—	—	—	—	—	—
Total Deaths 1933	1503	1107	61	852	210	247	438	1384	71
Total Deats 1932	1485	1151	60	965	235	289	655	1362	68
BIRTHS.									
Total Births 1933	3402	2204	186	1657	371	469	1163	2336	154
Total Births 1932	3265	2043	178	1609	272	486	1178	2186	157
INFANT MORTALITY.									
Rate per 1000 Births 1933	107.58	187.84	139.78	178.63	335.79	206.82	129.83	129.28	136.36
Rate per 1000 Births 1932	117.30	178.66	117.97	190.18	341.91	226.33	185.90	129.00	152.86

BIRTHS AND DEATHS - 1933.

Town, Village or District.	Jaffa	District	Tel-Aviv	Ramleh	District	Gaza	District	Majdal	District
DEATHS.									
Under 1 month	102	60	35	17	63	31	87	23	90
1 to 3 months	62	21	9	10	57	27	41	7	38
3 to 6 months	85	50	23	20	63	24	35	10	54
6 to 12 months	152	68	33	34	141	56	82	27	184
Under 1 year	401	199	100	81	324	138	245	67	366
0 to 5 years	737	369	154	143	822	360	624	118	616
5 to 10 years	35	18	3	3	40	24	40	1	17
10 to 15 years	47	6	10	4	16	16	16	—	7
15 to 20 years	13	5	8	3	5	4	12	1	8
20 to 25 years	39	15	11	5	12	14	11	5	14
25 to 30 years	45	17	20	3	29	13	10	—	16
30 to 35 years	41	8	20	3	18	12	11	2	17
35 to 40 years	36	13	11	6	19	14	6	6	15
40 to 45 years	29	13	9	4	10	5	11	1	17
45 to 50 years	37	17	11	2	20	6	10	3	17
50 to 55 years	29	12	17	3	18	5	15	—	9
55 to 60 years	16	7	25	2	11	4	8	2	24
60 to 65 years	50	26	30	4	19	5	10	5	18
Over 65 years	152	109	151	23	100	89	74	20	84
Unknown	—	1	—	—	—	—	—	—	—
Total Deaths 1933	1306	636	480	208	1139	571	858	164	879
Total Deaths 1932	1230	622	435	317	1297	610	818	335	1212
BIRTHS.									
Total Births 1933	2276	2226	1754	533	2523	1186	1579	404	1937
Total Births 1932	2008	1930	1411	519	2468	1184	1681	375	2063
INFANT MORTALITY									
Rate per 1000 Births 1933	176.18	89.39	57.01	151.97	128.41	116.35	155.16	165.84	188.95
Rate per 1000 Births 1932	181.77	97.92	68.03	208.09	141.00	156.25	152.88	325.33	171.11

BIRTHS AND DEATHS - 1933.

Town, Village or District.	Haifa	District	Acre	District	Nazareth	District
DEATHS.						
Under 1 month	92	116	9	41	10	28
1 to 3 months	31	52	14	58	10	27
3 to 6 months	47	43	9	42	12	35
6 to 12 months	117	91	12	72	26	37
Under 1 year	287	302	44	213	58	127
0 to 5 years	509	432	94	424	97	224
5 to 10 years	19	12	2	15	6	13
10 to 15 years	18	9	—	7	4	7
15 to 20 years	12	7	2	7	7	5
20 to 25 years	33	25	4	10	13	14
25 to 30 years	32	29	4	17	14	10
30 to 35 years	32	11	6	14	9	8
35 to 40 years	27	15	7	11	8	9
40 to 45 years	24	14	2	13	6	7
45 to 50 years	23	11	9	17	5	6
50 to 55 years	16	14	2	19	6	9
55 to 60 years	17	12	1	11	9	12
60 to 65 years	24	12	5	23	11	5
Over 65 years	126	53	25	86	35	34
Unknown	—	5	—	—	—	—
Total Deaths 1933	912	661	163	674	230	363
Total Deaths 1932	823	658	158	720	208	429
BIRTHS.						
Total Births 1933	2240	1856	230	1870	430	1288
Total Births 1932	2026	1661	306	1609	428	1039
INFANT MORTALITY.						
Rate per 1000 Births 1933	128.12	162.71	133.33	113.90	134.88	98.60
Rale per 1000 Births 1932	130.79	157.13	84.96	134.86	126.17	173.24

BIRTHS AND DEATHS - 1933.

Town, Village or District.	Nablus	District	Tulkarem	District	Tiberias	District	Safad	District	Jenin	District
DEATHS.										
Under 1 month	32	95	6	83	6	41	26	86	4	109
1 to 3 months	21	82	7	70	7	45	13	60	5	85
3 to 6 months	17	82	5	80	7	42	12	99	—	81
6 to 12 months	42	135	6	76	21	77	29	117	6	123
Under 1 year	112	394	24	309	41	205	80	362	15	398
0 to 5 years	285	841	50	502	64	396	136	746	40	699
5 to 10 years	24	45	1	29	6	21	4	39	1	35
10 to 15 years	11	24.	—	6	2	16	1	16	—	9
15 to 20 years	12	8	2	5	3	11	3	12	—	8
20 to 25 years	15	21	2	17	8	5	5	17	1	15
25 to 30 years	13	34	5	21	3	16	6	23	—	23
30 to 35 years	20	23	4	23	5	17	3	12	1	20
35 to 40 years	11	33	—	20	5	16	8	24	—	13
40 to 45 years	16	27	1	13	2	14	4	14	1	11
45 to 50 years	12	25	1	17	5	11	5	13	3	14
50 to 55 years	15	26	2	14	3	11	3	11	3	15
55 to 60 years	4	18	—	16	7	7	3	13	—	8
60 to 65 years	20	34	8	14	12	12	6	8	—	22
Over 65 years	66	159	15	100	24	58	31	65	3	82
Unknown	—	—	—	—	—	—	—	1	—	—
Total Deaths 1933	524	1318	91	797	149	611	218	1014	53	974
Total Deaths 1932	513	1442	127	1031	135	514	177	795	61	1021
BIRTHS.										
Total Births 1933	861	2680	251	2133	353	1173	429	1631	124	2180
Total Births 1932	891	2511	242	2046	392	1107	417	1621	138	2091
INFANT MORTALITY.										
Rate per 1000 Births 1933	130.08	147.01	95.61	144.87	116.14	174.76	186.47	221.94	120.97	182.56
Rate per 1000 Births 1932	112.23	160.89	181.81	171.55	68.87	169.82	105.51	163.47	144.92	189.86

SUMMARY OF BIRTHS AND DEATHS - 1933.

	Totals for Towns.	Total for Districts excluding Beersheba.
DEATHS.		
Under 1 month	591	1,139
1 to 3 months	336	829
3 to 6 months	393	953
6 to 12 months	783	1,632
Under 1 year of age	2,103	4,553
0 to 5 years	3,896	9,239
5 to 10 years	182	464
10 to 15 years	161	189
15 to 20 years	98	113
20 to 25 years	215	223
25 to 30 years	227	300
30 to 35 years	207	227
35 to 40 years	197	242
40 to 45 years	154	219
45 to 50 years	159	215
50 to 55 years	163	226
55 to 60 years	138	179
60 to 65 years	273	258
Over 65 years	1,282	1,413
Unknown	—	7
Total Deaths 1933	7,352	13,514
Total Deaths 1932	7,632	14,326
BIRTHS. Total Births 1933	16,347	29,742
Total Births 1932	15,387	28,151
INFANT MORTALITY. Rate per 1000 Births 1933	128.65	153.08
Rate per 1000 Births 1932	142.71	158.89

Religions.	Christians.	Moslems.	Jews.	Others.	Totals.	Percentages.
Population,	95,165	723,427	209,207	10,532	1038,331	
DEATHS.						
Under 1 month	106	1,445	162	17	1,730	
1 to 3 months	90	999	55	21	1,165	
3 to 6 months	102	1,141	91	12	1,346	
6 to 12 months	142	2,068	184	21	2,415	
Under 1 year of age	440	5,653	492	71	6,656	
0 to 5 years	691	11,606	726	112	13,135	62.9
5 to 10 years	25	583	34	4	646	3.1
10 to 15 years	19	289	40	2	350	1.6
15 to 20 years	18	164	24	5	211	1.0
20 to 25 years	32	347	55	4	438	2.1
25 to 30 years	39	427	51	10	527	2.5
30 to 35 years	19	352	57	6	434	2.1
35 to 40 years	20	360	55	4	439	2.1
40 to 45 years	27	296	47	3	373	1.8
45 to 50 years	29	303	37	5	374	1.8
50 to 55 years	33	295	59	2	389	1.9
55 to 60 years	32	210	73	2	317	1.5
60 to 65 years	46	364	117	4	531	2.5
Over 65 years	298	1,813	563	21	2,695	12.9
Unknown	—	5	1	1	7	
Total Deaths	1,328	17,414	1,939	185	20,866	99.8
Deaths per 1000	13.95	24.07	9.26	17.56	20.09	
BIRTHS. Total Births	3,428	36,053	6,113	495	46,089	
Births per 1000	36.02	49.83	29.22	47.00	44.38	
INFANT MORTALITY. Total Deaths under 1 year	440	5,653	492	71	6,656	
Rate per 1000 Births.	128.38	156.80	80.48	143.43	144.41	

Epidemic Service.

Mobile Equipment.

33. The equipment for the establishment of epidemic hospitals in rural areas was used in the case of a localised outbreak of small pox in the Southern District. Two emergency hospitals were established in tents one near Majdal and one near Gaza. These mobile hospital units operated for approximately 6 weeks during which 31 patients and 106 contacts were dealt with.

Training of Junior Personnel.

34. An elementary course of instruction in sanitation was held and was attended by 14 of the personnel of the Department. Of these seven passed the examination held at termination of the course.

Disinfection.

35. The Department is equipped with 40 disinfecting machines of which 29 are of portable type. In addition, for use in village areas, the Thomson disinfecting drum is employed. An order has been placed for an additional fixed type machine for the projected disinfecting station at Haifa Port. The work accomplished by the disinfecting service is shown in the following table:—

	* Method "A"	* Method "B"	Number of Articles or Bundles Disinfected
Jerusalem	85	534	1151
Ramallah	—	65	1054
Bethlehem	—	64	1152
Hebron	19	106	3852
Beersheba	5	32	5334
Jaffa	—	390	12709
Tel-Aviv	—	260	528
Ramle	—	46	1687
Gaza	—	1778	1259
Majdal	—	11	869
Haifa	30	1161	58864
Acre	25	4	15
Nazareth	—	227	3037
Nablus	24	361	10197
Tulkarem	—	37	34141
Tiberias	44	123	6488
Safad	—	133	5506
Jenin	1	101	19138
TOTALS	233	5433	166981

* Disinfection of house of patient and neighbouring houses where necessary.
Method "A" — For diseases originating in vermin.
Method "B" — For other diseases.

Infectious & Communicable Disease.

36. 12,947 cases and 1393 deaths from communicable diseases were reported compared with 12,288 cases and 1,288 deaths in 1932. The principal causes of death were pneumonia 415 and measles 372. 258 deaths were notified as due to tuberculosis.

(a) 9 sporadic cases of Acute Poliomyelitis occurred in the towns of Jerusalem, Jaffa, Tel-Aviv and Haifa, of which 3 were fatal.

(b) There were 39 cases of Anthrax and 9 deaths compared with 17 cases and 3 deaths in 1932. Three cases occurred in Jerusalem district, eight in Jaffa district, seventeen in Haifa district and ten in Nablus district.

(c) Diphtheria was slightly more prevalent with 210 cases and 21 deaths compared with 180 and 19 deaths in 1932. The disease was most prevalent in Jaffa and Tel-Aviv.

(d) Pneumonia is incompletely notified. There were 415 deaths reported as compared with 433 in 1932.

(e) Lack of special staff prevented further progress being made in the preliminary survey of tuberculosis initiated in 1931 and interrupted owing to staff reductions at that time.

Notifications of this disease are far from accurate and convey no true indication of its incidence. A more reliable estimate of the position is afforded by the number of deaths, which during the year, from all forms of tuberculosis, numbered 258 as compared with 215 in 1931, the increase being urban rather than rural in its distribution. Of the 258 deaths recorded, 193 were from pulmonary and 65 from extra-pulmonary infections.

The problem of tuberculosis in this as in any other country is a formidable one, and requires detailed study before measures, either preventive or therapeutic, can be adopted to deal with it, and for this special staff is obligatory.

The appointment of a Senior Medical Officer for endemic diseases in the latter part of the year will enable the preliminary survey to be continued, and it is hoped that accurate information regarding the importance of this disease from health, economic, and social aspects may be made available in due course.

(f) The prevalence of measles was slightly greater than last year. 4998 cases with 372 deaths were notified.

(g) There was a slightly higher incidence of scarlet fever, the number of cases being 383. No deaths occurred. The principal locality affected was Tel-Aviv with 143 cases.

(h) 31 cases of smallpox occurred in Gaza and Majdal districts, of which one was fatal. The first cases were found on 29th of June in a group of local Bedouin who gave information of recent contact with an Egyptian Bedouin tribe from Sinai. This tribe was located near Majdal and several cases were found. The two groups of Bedouin were kept in camps in isolation and cases were removed to a temporary epidemic hospital which was established for this purpose near Majdal. Altogether six cases occurred amongst local inhabitants of Palestine who had been in contact with the infected tribe. Four of these cases occurred in the vicinity of Gaza where a second mobile hospital unit was established and to which they were admitted.

Concurrently with this action an extensive revaccination campaign was undertaken and in about six weeks approximately 88,000 persons in Gaza and Majdal districts were revaccinated. During this time also the local Bedouin population occupying the territory south of Beersheba and bordering on Sinai were revaccinated numbering 15,000 persons.

(i) The total incidence of typhoid fever was 1,055 cases compared with 1215 in 1932. There were 107 deaths compared with 129 in the previous year. In general there was a slightly lower incidence throughout the country except in Tel-Aviv town and in Safad town and district.

About two thirds of the cases occurred in the principal towns of Jerusalem, Haifa, Jaffa and Tel-Aviv. This constitutes a cogent reason for pressing forward rapidly with the main sewerage schemes projected for those important centres. Except in the case of Haifa, town water supplies are satisfactory in quality and are in the course of improvement in the matter of quantity and distribution. Progress in the construction of main sewerage schemes is most important in order to obtain reduction in the incidence of typhoid fever.

(j) There were 259 cases of paratyphoid with 7 deaths compared with 220 and 7 deaths in 1932.

(k) 414 cases of dysentery with 30 deaths were reported. The number was approximately the same as in the preceding year. Of the 414 cases notified 206 were bacillary dysentery, 198 amoebic, and 10 unclassified.

Notification of dysentery as such is incomplete. In this connection it should be noted that there were 1491 deaths in towns certified by medical practitioners as caused by diarrhoea and enteritis. It is probable that many of these cases were dysenteric infections.

(l) 47 cases of puerperal fever and 22 deaths occurred compared with 35 cases and 18 deaths in 1932.

(m) Twenty nine cases of typhus occurred sporadically during the year in Haifa town and sub-district. No cases were notified from other areas. There was one death.

(n) Twenty three cases of relapsing fever occurred compared with thirteen in 1932. Seven cases were notified from Jerusalem town and six each from Nazareth and Nablus districts. There were no deaths.

(o) Work in connection with the eradication of Ankylostomiasis has proceeded during the year on the lines indicated in last year's report. 3,315 stool examinations were carried out in villages of Jaffa sub-district. 2,262 treatments were given.

A preliminary survey of certain villages in Tulkarem sub-district was also carried out. In eight villages 500 persons were examined and furnished an infestation rate of 29$^0/_0$.

It is proposed to extend the survey to areas other than the citrus growing area in Palestine during the coming year.

Progress was made with the installation of bored hole latrines in villages. During the year approximately 2,000 were installed. Evidence is available that these latrines are being used and in most cases are given satisfactory attention by the householders.

(p) Two cases of blackwater fever of which one was fatal were reported. One was resident at Capernaum on the shores of the Sea of Galilee where a serious situation in so far as malaria control is concerned has arisen from the lowering of the water level of the lake. The fatal case contracted malaria at the Wadi Rubin where he resided for a period of one month during the annual Nebi Rubin festival.

(q) Three fatal cases of hydrophobia occurred. Two of these cases had not reported for antirabic treatment after being bitten and developed symtoms of hydrophobia 38 days in one case and seven months in the other after having been bitten. The third case absented himself during the course of treatment initiated at the time of being bitten and developed hydrophobia eleven months later.

(r) Eleven cases of leprosy including one transferred from Trans-Jordan for treatment were reported during the year. Of these cases six were admitted to the Moravian Mission Hospital the remainder were placed under outpatient treatment and supervision. There was one death.

Vaccination Against Small Pox.

37. VACCINATIONS — 1933.

	Results of Observation.	Towns.	Villages.	Persons entering Palestine		Totals.
				Haifa Port.	Jaffa Port	
Primary Vaccinations.	Successful.	14693	95921	—	63	110677
	Unsuccessful.	752	1790	—	—	2542
	Not observed.	1638	1786	—	—	3424
Re-Vaccinations.	Successful.	24340	91614	1790	4552	122296
	Unsuccessful.	11375	26658	2225	7126	47384
	Not observed.	21849	38893	7021	53	67816
TOTALS.		74647	256662	11036	11794	354139

Primary vaccinations, being for the most part vaccinations of new born infants, numbered 17,083 in towns. The number of registered births during the year in towns was 16,347. Primary vaccinations in rural areas are recorded in the foregoing table as 99,497 including 65,185 vaccinations of nomadic Bedouin in the desert south of Beersheba. In the settled rural population there were 34,312 primary vaccinations performed. The registered births during the year in this population were 29,742. These figures indicate that vaccination of infants as required by law is being satisfactorily kept up to date.

CASE AND DEATH INCIDENCE OF INFECTIOUS DISEASES BY MONTHS FOR THE YEAR 1933.

	January		February		March		April		May		June		July		August		September		October		November		December		TOTALS	
	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths
Acute Poliomyelitis	-	-	-	-	1	-	1	-	2	1	-	-	1	-	4	2	-	-	-	-	-	-	-	-	9	3
Anthrax	1	1	-	-	2	1	-	-	1	-	4	1	4	-	7	1	5	2	6	1	4	2	5	-	39	9
Cerebro-Spinal Meningitis	1	-	-	-	-	-	1	-	-	-	-	-	-	-	2	1	-	1	-	-	-	-	-	-	4	2
Chicken Pox	25	-	84	-	92	-	57	-	127	-	62	-	48	-	22	-	1	-	7	-	4	-	15	-	544	-
Diphtheria	15	1	27	-	11	2	8	1	6	-	7	2	2	1	9	1	21	2	39	8	29	2	36	1	210	21
Dysentery	16	1	8	-	10	-	19	1	31	3	29	3	27	2	33	2	68	7	58	6	63	3	52	2	414	30
Erysipelas	21	1	21	1	12	4	22	5	19	1	20	1	26	4	27	2	21	3	12	2	23	3	13	4	237	31
German Measles	-	-	2	-	1	-	1	-	1	-	1	-	-	-	-	-	-	-	-	-	1	-	-	-	7	-
Hydrophobia	1	1	-	-	-	-	-	-	-	-	-	-	-	-	1	1	1	1	-	-	-	-	-	-	3	3
Influenza	23	3	16	1	17	-	6	-	1	1	-	-	2	1	-	-	-	-	1	1	4	1	94	7	164	15
Measles	508	74	448	51	677	30	488	13	897	49	637	51	392	49	98	8	98	5	134	4	282	23	339	15	4998	372
Mumps	66	-	64	-	54	-	43	1	92	-	36	-	22	-	10	-	13	-	22	-	52	-	28	-	502	1
Para-typhoid	13	-	11	-	9	-	13	-	17	1	24	1	28	1	35	1	33	1	21	-	37	1	18	1	259	7
Pneumonia	98	56	69	31	55	25	73	40	76	46	47	28	32	22	35	29	36	29	36	27	56	33	83	49	696	415
Puerperal Fever	4	2	5	1	2	4	6	2	5	2	2	1	6	5	5	-	2	1	3	3	3	-	4	1	47	22
Relapsing Fever	1	-	1	-	-	-	-	-	4	-	1	-	1	-	6	-	3	-	2	-	3	-	1	-	23	-
Scarlet Fever	23	-	49	-	51	-	45	-	43	-	38	-	34	-	21	-	19	-	24	-	20	-	16	-	383	-
Schistosomiasis	1	-	-	-	3	-	-	-	1	-	1	-	-	-	-	-	1	-	1	-	-	-	-	-	8	-
Small Pox	-	-	-	-	-	-	-	-	-	-	14	-	17	1	-	-	-	-	-	-	-	-	-	-	31	1
Typhoid	34	6	35	5	32	5	28	3	36	3	89	4	117	13	97	15	147	13	174	13	129	12	137	15	1055	107
Typhus	1	-	3	-	3	-	3	-	-	-	1	-	2	1	4	-	2	-	4	-	4	-	2	-	29	1
Undulant Fever	-	-	-	-	-	-	-	-	-	-	1	-	2	1	1	-	-	-	1	-	1	-	-	-	6	1
Whooping Cough	36	4	186	8	152	10	68	1	57	1	71	-	34	-	15	-	32	1	57	-	89	2	78	2	875	29
Ankylostomiasis	3	-	4	-	3	-	1	-	5	-	6	-	8	-	7	-	8	-	1	-	2	-	1	-	49	-
Black Water Fever	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	1	-	-	2	1
Epidemic Ulcer	-	-	-	-	-	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	-
Gonorrhoea	27	-	12	-	19	-	11	-	6	-	14	-	14	-	11	-	15	-	14	-	9	-	10	-	162	-
Leishmaniasis	-	-	-	-	1	1	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	2	1
Leprosy	-	-	3	1	-	-	1	1	1	-	1	-	-	-	-	-	-	-	2	-	1	-	3	-	12	2
Malaria	33	-	14	-	6	-	7	-	24	-	28	1	61	1	138	2	324	2	106	3	68	2	165	-	974	11
Pellagra	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	1
Rheumati Fever	7	-	3	-	2	-	3	-	7	-	5	-	1	-	4	-	1	-	1	-	6	-	4	-	44	-
Syphilis	48	1	64	-	78	-	73	4	47	-	64	-	55	1	91	3	65	1	35	6	38	4	39	3	697	23
Tetanus	5	4	3	-	5	5	5	2	5	2	-	-	1	1	6	2	2	2	3	1	4	2	7	5	46	26
Tuberculosis	29	21	39	23	39	25	49	28	35	21	38	25	45	31	24	17	29	15	26	19	31	16	28	17	412	258
TOTALS.	1041	177	1171	121	1337	112	1034	102	1546	131	1242	118	982	135	713	87	947	86	790	94	965	107	1180	122	12946	1393

CASE AND DEATH INCIDENCE OF INFECTIOUS

	Jerusalem Town.		Jerusalem District.		Ramallah and District.		Bethlehem and District.		Hebron and District		Beersheba and District		Jaffa Town.		Jaffa District.		Tel-Aviv.		Ramleh and District.	
	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths
Acute Poliomyelitis	3	2	—	—	—	—	—	—	—	—	—	—	2	—	1	—	2	1	—	—
Anthrax	3	1	—	—	—	—	—	—	—	—	—	—	5	—	2	2	1	1	1	—
Cerebro-Spinal Meningitis	1	1	—	—	—	—	—	—	—	—	—	—	1	—	—	—	—	—	—	—
Chicken Pox	11	—	9	—	16	—	8	—	5	—	8	—	19	—	31	—	25	—	33	—
Diphtheria	17	—	—	—	—	—	—	—	—	—	—	—	25	8	27	4	58	4	3	—
Dysentery	36	5	4	1	—	—	—	—	—	—	—	—	40	2	68	6	100	5	2	—
Erysipelas	44	9	3	—	2	1	21	3	—	—	6	—	20	7	15	2	18	—	2	—
German Measles	1	—	—	—	—	—	—	—	—	—	—	—	1	—	2	—	—	—	—	—
Hydrophobia	—	—	—	—	—	—	—	—	—	—	—	—	1	1	—	—	—	—	—	—
Influenza	41	3	—	—	43	5	—	—	—	—	9	—	3	2	1	—	—	—	10	—
Measles	111	9	527	29	1048	59	66	19	473	74	72	18	54	7	38	1	77	—	366	19
Mumps	46	—	1	—	—	—	—	—	1	1	—	—	11	—	3	—	3	—	12	—
Para-typhoid	46	—	5	—	—	—	2	—	1	—	1	—	27	2	50	1	83	—	—	—
Pneumonia	154	127	17	8	2	1	18	7	1	1	13	2	139	129	15	12	22	22	5	2
Puerperal Fever	8	3	5	2	—	—	6	4	—	—	—	—	1	—	2	2	—	—	—	—
Relapsing Fever	7	—	—	—	—	—	1	—	—	—	—	—	1	—	—	—	—	—	—	—
Scarlet Fever	64	—	1	—	—	—	—	—	—	—	—	—	16	—	54	—	143	—	2	—
Schistosomiasis	3	—	—	—	—	—	—	—	—	—	1	—	—	—	3	—	—	—	—	—
Small Pox	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Typhoid	195	11	45	11	2	1	18	2	6	—	10	2	149	17	114	11	121	6	3	—
Typhus	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Undulant Fever	2	—	1	1	—	—	—	—	—	—	—	—	—	—	—	—	1	—	—	—
Whooping Cough	45	3	—	—	116	4	1	1	15	—	—	—	26	3	22	—	4	—	5	—
Ankylostomiasis	2	—	—	—	—	—	—	—	—	—	—	—	6	—	19	—	2	—	7	—
Black Water Fever	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1	1
Epidemic Ulcer	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Gonorrhoea	15	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1	—
Leishmaniasis	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Leprosy	7	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Malaria	16	—	8	—	—	—	3	—	—	—	90	3	51	2	188	1	37	1	90	—
Pellagra	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Rheumatic Fever	6	—	1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Syphilis	207	7	—	—	3	—	—	—	293	—	15	—	12	—	—	—	—	—	1	—
Tetanus	2	1	—	—	—	—	—	—	1	1	—	—	12	8	3	1	—	—	3	1
Tuberculosis	68	57	—	—	5	5	19	19	—	—	7	—	55	42	7	5	23	20	4	2
TOTALS.	1161	239	627	52	1237	76	163	55	796	77	232	25	677	230	665	48	720	60	551	25

DISEASES BY LOCATIONS FOR 1933.

Gaza and District.		Majdal and District.		Haifa Town.		Haifa District.		Acre and District.		Nazareth and District.		Nablus and District.		Tulkarem and District.		Tiberias and District.		Safad and District.		Jenin and District.		TOTALS.	
Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths
—	—	—	—	—	—	1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	9	3
—	—	—	—	9	2	7	—	—	—	1	—	10	3	—	—	—	—	—	—	—	—	39	9
—	—	—	—	1	—	—	—	—	—	1	1	—	—	—	—	—	—	—	—	—	—	4	2
14	—	7	—	9	—	111	—	13	—	22	—	20	—	37	—	66	—	43	—	37	—	544	—
—	—	—	—	46	2	19	—	—	—	6	1	3	1	—	—	4	—	2	1	—	—	210	21
—	—	—	—	99	6	15	—	7	—	8	—	3	3	—	—	23	1	9	1	—	—	414	30
3	1	—	—	39	4	9	—	1	—	2	—	25	2	8	—	11	1	8	1	—	—	237	31
—	—	—	—	1	—	—	—	—	—	1	—	—	—	—	—	1	—	—	—	—	—	7	—
—	—	—	—	—	—	1	1	—	—	—	—	1	1	—	—	—	—	—	—	—	—	3	3
5	3	—	—	4	—	—	—	9	—	4	—	—	—	24	2	9	—	2	—	—	—	164	15
380	32	38	1	39	5	93	1	14	1	5	—	577	59	83	2	181	—	372	17	384	19	4998	372
10	—	1	—	37	—	25	—	14	—	33	—	38	—	38	—	167	—	2	—	60	—	502	1
5	1	—	—	21	2	7	—	—	—	5	1	6	—	—	—	—	—	—	—	—	—	259	7
34	15	7	2	43	29	3	2	1	—	17	13	83	24	53	10	38	4	25	4	6	1	696	415
—	—	—	—	2	2	—	—	—	—	2	2	14	3	—	—	5	3	2	1	—	—	47	22
—	—	—	—	—	—	1	—	1	—	6	—	6	—	—	—	—	—	—	—	—	—	23	—
—	—	—	—	28	—	26	—	1	—	15	—	—	—	—	—	30	—	3	—	—	—	383	—
—	—	—	—	—	—	1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	8	—
4	—	27	1	—	—	—	—	—	—	-	—	—	—	—	—	—	—	—	—	—	—	31	1
20	6	—	—	157	19	47	4	6	1	22	4	64	9	2	—	7	1	66	2	1	—	1055	107
—	—	—	—	12	—	17	1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	29	1
—	—	—	—	1	—	—	—	—	—	—	—	1	—	—	—	—	—	—	—	—	—	6	1
8	—	—	—	23	—	24	—	11	—	18	3	142	9	97	1	54	—	90	—	174	5	875	29
1	—	7	—	—	—	1	—	—	—	—	—	2	—	2	—	—	—	—	—	—	—	49	—
—	—	—	—	1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2	1
—	—	—	—	1	—	1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2	—
—	—	—	—	139	—	6	—	1	—	—	—	—	—	—	—	—	—	—	—	—	—	162	—
—	—	—	—	—	—	1	1	—	—	1	—	—	—	—	—	—	—	—	—	—	—	2	1
—	—	—	—	1	—	—	—	1	1	1	1	—	—	1	—	1	—	—	—	—	—	12	2
2	—	6	—	20	1	162	1	—	—	11	1	19	1	172	—	73	—	26	—	—	—	974	11
—	—	—	—	1	1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1	1
—	—	—	—	35	—	2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	44	—
1	—	—	—	111	15	10	—	—	—	1	1	—	—	5	—	37	—	—	—	1	—	697	23
4	2	—	—	3	1	3	1	1	1	4	3	6	4	1	1	2	1	—	—	1	—	46	26
15	17	1	1	86	22	30	1	31	5	14	12	18	16	3	4	8	5	13	20	5	5	412	258
506	77	94	5	969	111	623	13	112	9	200	43	1038	135	526	20	717	16	663	47	669	30	12946	1393

TUBERCULOSIS CLASSIFICATION 1933.

Towns

	Respiratory System		Meninges and Central Nervous System, generally		Intestines and Peritoneum		Vertebral Column		Joints		Skin and Sub-Cutaneous cellular tissue		Bones (Vertebral Column excluded)		Lymphaticsystem(mesenteric and retro peritoneal glands excepted)		Genito-urinary System		Organs other than the above		Disseminated acute		Disseminated chronic		TOTALS	
	C.	D.	C.	D.	C.	D.	C.	D.	C.	D.	C.	D.	C.	D.	C.	D.	C.	D.	C.	D.	C.	D.	C.	D.	C.	D.
Jerusalem	46	36	5	5	5	5	—	—	1	1	—	—	—	—	—	—	1	1	—	—	2	2	1	1	61	51
Ramallah	—	—	—	—	1	1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1	1
Bethlehem	9	9	2	2	4	4	—	—	—	—	—	—	—	—	1	1	—	—	—	—	2	2	—	—	18	18
Hebron	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Beersheba	3	—	—	—	1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	4	—
Jaffa	47	35	3	3	2	2	—	—	—	—	—	—	—	—	2	1	—	—	—	—	—	—	1	1	55	42
Tel-Aviv	22	19	—	—	1	1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	23	20
Ramle	2	2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2	2
Gaza	12	14	—	—	2	2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	14	16
Majdal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Haifa	62	18	1	1	8	1	1	—	2	—	3	—	5	—	3	1	1	1	—	—	—	—	—	—	86	22
Acre	8	2	—	—	3	2	—	—	—	—	3	1	6	—	7	—	—	—	—	—	—	—	—	—	27	5
Nazareth	7	6	—	—	2	2	—	—	—	—	—	—	—	—	—	—	—	—	1	1	—	—	—	—	10	9
Nablus	11	10	—	—	5	4	—	—	—	—	—	—	2	2	—	—	—	—	—	—	—	—	—	—	18	16
Tulkarem	2	2	—	—	1	1	—	—	—	—	—	—	—	—	1	1	—	—	—	—	—	—	—	—	4	4
Tiberias	5	3	—	—	1	1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1	1	7	5
Safad	11	18	—	—	2	2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	13	20
Jenin	2	3	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2	3
Towns	249	177	11	11	38	28	1	—	3	1	6	1	13	2	14	4	2	2	1	1	4	4	3	3	345	234
Villages	50	16	4	4	5	3	2	—	1	—	1	—	1	—	1	—	1	—	1	1	—	—	—	—	67	24
TOTALS	299	193	15	15	43	31	3	—	4	1	7	1	14	2	15	4	3	2	2	2	4	4	3	3	412	258

Villages

	Respiratory System		Meninges and Central Nervous System, generally		Intestines and Peritoneum		Vertebral Column		Joints		Skin and Sub-Cutaneous cellular tissue		Bones (Vertebral Column excluded)		Lymphaticsystem(mesenteric and retro peritoneal glands excepted)		Genito-urinary System		Organs other than the above		Disseminated acute		Disseminated chronic		TOTALS	
	C.	D.	C.	D.	C.	D.	C.	D.	C.	D.	C.	D.	C.	D.	C.	D.	C.	D.	C.	D.	C.	D.	C.	D.	C.	D.
Jerusalem	3	2	2	2	2	2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	7	6
Ramallah	4	3	—	—	—	1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	4	4
Bethlehem	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1	1	—	—	—	—	1	1
Hebron	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Beersheba	3	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	3	—
Jaffa	6	4	1	1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	7	5
Tel-Aviv	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Ramle	2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2	—
Gaza	1	1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1	1
Majdal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Haifa	23	1	—	—	3	—	2	—	—	—	1	—	—	—	—	—	1	—	—	—	—	—	—	—	30	1
Acre	2	—	—	—	—	—	—	—	—	—	—	—	1	—	1	—	—	—	—	—	—	—	—	—	4	—
Nazareth	3	2	1	1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	4	3
Nablus	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Tulkarem	—	1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1
Tiberias	1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1	—
Safad	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Jenin	2	2	—	—	—	—	—	—	1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	3	2
Towns	50	16	4	4	5	3	2	—	1	—	1	—	1	—	1	—	1	—	1	1	—	—	—	—	67	24
Villages																										
TOTALS																										

The introduction of Small pox to Palestine by a nomadic Bedouin group from Sinai terminated the five years complete immunity from this disease which Palestine has enjoyed while it has been prevalent during this period in neighbouring territories.

Particulars of this outbreak have been given in the foregoing section of this report. The energetic measures taken at the time to revaccinate the population of the infected area were greatly facilitated by the clamant desire of all classes to avail themselves of this protective measure. There is no doubt that this circumstance contributed greatly to the success of the measures taken to circumscribe the outbreak. The demand for vaccination by the public was so pressing that special arrangements were necessary to keep the various vaccination centres supplied with vaccine and additional staff engaged to assist in tubing lymph for issue from bulk stocks in Jerusalem.

88,000 vaccinations were performed in the Gaza and Majdal districts during the five weeks following the notification of the disease.

The outbreak stimulated also the desire for vaccination in other areas of the country where 62,000 re-vaccinations were performed.

Opportunity was taken at the end of the autumn to vaccinate all Bedouin tribes South of Beersheba on their return to their winter camping grounds. In this area the cooperation of the Police was of great value.

Vaccinators were permitted to accompany Police patrols whose itineraries were modified where necessary to meet the requirements of the situation. The delivery of vaccine lymph in a fresh condition at points in the desert, several days trek by camel from Beersheba, was made possible by the helpful cooperation of the Royal Air Force whose aeroplanes transported supplies to convenient centres.

The total number of vaccinations performed during the year was 354,139. Of 113,219 primary vaccinations the results of which were observed, 97% gave successful reactions. This indicates that the arrangements to ensure the supply of potent lymph to vaccinators were satisfactory and that the technique of vaccination was properly performed.

Malaria & Antimalarial Measures.

Incidence of Malaria.

38. There was a slight total increase in the incidence of malaria during the year which, following upon a winter season of exceptionally low rainfall is of particular interest. The winter rainfall based on the average of 37 recording stations, only amounted to the low figure of 280 millimetres. The maximum recorded was at Bir-Zeit, 428 millimetres, and the lowest 60.5 millimetres at the Dead Sea.

The increased incidence of malaria was mainly confined to particular groups of the rural population and was due to factors directly associated with the low rainfall.

Failure of water supplies in controlled areas led to the movement of groups of the population to uncontrolled areas in order to secure water and grazing for stock. A considerable amount of malaria was thus contracted during the year in the Jordan Valley.

A serious situation was caused by the operations of the Palestine Electric Corporation's Hydro-electric scheme which resulted in the lowering of the level of Lake Tiberias approximately one and a half metres below normal summer low level. Around the shores, spring and seepage areas usually covered by water were exposed and provided most favourable breeding areas effective control of which is most difficult. There was in consequence a higher incidence of malaria particularly at Tabgha, Migdal, and Samakh.

Settlement in the coastal plain north of Jaffa is approaching more closely the undrained swamps at Birket Ramadan, and in the Wadi Hawareth area where projected drainage schemes require still to be carried out. In such circumstances a high incidence of malaria cannot be avoided.

There were no serious outbreaks of malaria in areas under normal supervision where the early drying of wadies and springs simplified the established measures of control. There was a slightly higher incidence, however, at Hedera where 89 primary cases were recorded compared with 53 in 1932.

There was a slight increase in the total number of malaria cases found amongst persons attending out-patient departments and dispensaries· The number being 3330 out of 528,186 patients or 0.63$^0/_0$ compared with 0.60$^0/_0$ in 1932 out of 495,583 patients.

PERCENTAGE OF MALARIA CASES AMONG DISPENSARY PATIENTS, 1933.

Year	Total Number of Dispensary Patients	Number of Patients Treated for Malaria	Percentage of Malaria Patients
1929	404,188	11,404	2.82
1930	406,623	11,503	2.82
1931	458,941	8,147	1.77
1932	495,583	2,984	0.60
1933	528,186	3,330	0.63

Spleen Rates of School Children.

39. The spleen rate of 19,660 children attending schools in towns was 1.32$^0/_0$ compared with 0.74 in 1932. Significant increases were found mainly in Beisan and Tiberias Schools.

In 38,853 village school children examined, a rate of 4.36$^0/_0$ was found. The corresponding rate last year was 5.2$^0/_0$. The comparative figures for preceding years are given below.

The combined spleen rates of village and town children for the past five years was as follows:—

Medical District	1929	1930	1931	1932	1933
Jerusalem	1.0	0.6	0.4	0.4	0.6
Jaffa	1.2	0.8	0.4	0.3	0.1
Haifa	7.8	7.2	4.9	2.4	1.4
Samaria & Galilee	19.8	15.1	10.2	10.4	12.8

The higher rate recorded in Samaria and Galilee District is mainly attributable to the unfavourable situation created in the Tiberias and Beisan areas to which reference has previously been made.

SPLEEN RATE - 1933.

Year	Number of Towns or Villages	Number of Children Examined	Number of children with enlarged spleen. Degree of Enlargement			Spleen Rate
			Slight	Moderate	Great	
			TOWN SCHOOL CHILDREN			
1929	19	13699	276	53	13	2.5$^0/_0$
1930	19	16894	210	45	7	1.5$^0/_0$
1931	19	18221	199	44	15	1.4$^0/_0$
1932	19	15285	97	14	3	0.74$^0/_0$
1933	19	19933	218	38	7	1.32$^0/_0$
			VILLAGE CHILDREN			
1929	528	38491	1981	981	358	8.6$^0/_0$
1930	520	39449	2021	1051	289	8.5$^0/_0$
1931	538	39767	1421	543	210	5.4$^0/_0$
1932	452	33088	1298	338	85	5.2$^0/_0$
1933	510	38853	1225	365	107	4.3$^0/_0$

Antimalarial Measures.

40. In Jerusalem town, 1300 cisterns were repaired and made mosquito proof. 46,754 potential breeding places are under regular supervision and oiled as required. No anopheles breeding was discovered during the year and complaints of the prevalence of culex were less than in the previous year.

There were 16 cases of primary malaria reported in the town compared with 11 in 1932. The infection had in every case been contracted in other localities of Palestine. A sharp epidemic occurred amongst the villagers of Yatta Village in Hebron sub-district who had migrated to the Ghor-el-Safi in Trans-Jordan to obtain grazing and water for their animals at the end of summer. Arrangements were made for the treatment of some two hundred infected persons of this village.

In addition to the routine work of control in this district, some special propaganda work was undertaken in Ramallah sub-district with the cooperation of the Department of Education assisted by the Near East Foundation. Lectures and demonstrations on the life history of the mosquito were given as part of an educational programme of general hygiene.

In Samaria & Galilee, apart from the routine supervision of 27039 potential breeding places of which 14724 are rain water cisterns and wells, special measures were required during the summer on the shores of the Sea of Galilee from Capernaum to Samakh in order to control breeding in the seepage and spring areas exposed by the unprecedented low level to which the lake had fallen. The work entailed canalization of springs, drainage of seepage areas and regular Paris Greening and oiling along the shore length from Tabgha to Samakh some 22 kilometres. The work entailed additional expenditure on labour and supervision of which £P. 84 was defrayed by the Palestine Electric Corporation. A fairly effective control of mosquito breeding was finally achieved from Migdal to Samakh but at Tabgha the problem presented much greather difficulties and only partial amelioration of conditions was possible.

A sharp outbreak of malaria also occurred amongst the Arabs and Jewish Settlers at Wadi Hawarith where further drainage of marsh areas is required. Free treatment was arranged but political feelings unfortunately were permitted to influence certain groups of Arabs suffering from infection against taking advantage of the treatment offered.

In Haifa District further improvement is to be recorded as a result of the additional work done on the Kishon Drainage Scheme. The records of routine collection of anopheles at the catching stations on the Nazareth Road carried out as in former years were extremely low. The figures for the last three years are:—

1931.	1932.	1933.
2882	32	12

A localised epidemic occurred amongst Bedouin in the neighbourhood of the Naamein River and Sabina. Intensive treatment was instituted and relieved the situation. The increased number of primary cases reported from Hedera was not associated with any failure of the local measures of control. In fact the Dameira swamp which alone still remains to be effectively drained held less water than in previous years. There is, however, here an increasing population exposed to risk in an area which is surrounded by potential breeding places.

In Jaffa District, the established areas of control were satisfactorily maintained and in general presented less difficulty owing to the lesser amount of water in wadies and marshes. There are, however, definite indications that extension of intensive control is required in the Wady Rubin owing to the closer settlement in this neighbourhood.

Most of the primary cases in Jaffa and Ramle Districts can be traced to this neighbourhood. The Nebi Rubin Festival during which large numbers of persons congregate and reside in this malarious area was responsible for a large number of cases. Next year it is proposed to commence intensive measures of control in the marsh and river and maintain these throughout the summer in an attempt to reduce the amount of sickness which follows these semi-religious festivals.

There was an increased number of cases in the area of settlement between the River Auja and Birket Ramadan. Improvement in this neighbourhood awaits the drainage of the large marsh area at Ramadan which in its present condition is not susceptible to ordinary methods of control.

Throughout the country there are approximately 150,000 potential breeding places under routine supervision, the mass of work involved being shown on the tables of statistics included in this report. In towns two and a half million inspections were made, over seven hundred thousand oilings mostly of cisterns and cesspits were done involving the use of fifty eight tons of solar oil, and 6400 breeding places were made mosquito proof during the year.

In rural areas, two hundred and sixty thousand oilings were done involving the use of nine and a half tons of solar oil. In addition over 500,000 metres of drainage canals and ditches were controlled in marshy areas.

Drainage Schemes.

41. The irrigation scheme from the Ain Sultan at Jericho was improved by the concreting of about 3,400 metres of main drainage canals. Owners of banana plantations were served with notices to carry out similar work within their properties. The majority had already completed this work during the course of the year.

The El-Swaima swamp East of the Jordan River inlet to the Dead Sea has been canalised by the Palestine Potash Company as a measure of protection for their employees residing at the Dead Sea Post.

New drainage work was carried out along the whole length of the Wadi Sair in Hebron District by the villagers.

An extension of 5000 metres of subsidiary channels was carried out in the Rubin Marsh during the year under the supervision of the Department.

An extensive revision of the Kabbara drainage scheme was undertaken by the Palestine Jewish Colonization Association.

Negotiations were in hand during the year for the drainage of Birket Ramadan in Jaffa District but further action has been postponed pending the settlement of the ownership of this area. The survey and preparation of a scheme of drainage was completed some years ago by the Malaria Survey Section of the Rockefeller Foundation which was attached to the Department at that time.

The canalization and drainage of the Wady Gaza was renewed by the Department assisted by prison labour at the beginning of summer.

At the end of the year, arrangements were made to utilise prison labour from Acre in commencing the drainage scheme of the lower portion of the Naamein River.

ANTIMALARIA STATISTICS FOR THE YEAR 1933.

TOWNS

Month	Number of fresh possible breeding places discovered				Number of Places							No. of Prosecutions	Number of kilos of solar oil used
						Breeding							
	Wells	Cisterns	Other Places	Cespits	Inspected	Anopheles	Culex	Anopheles and Culex	Oiled	Made mosquito proof by sealing, covering or other means	To which pumps fitted		
January	5	65	287	212	198308	—	591	—	58041	443	16	2	4002
February	1	33	152	169	187679	2	711	—	56420	427	25	5	4108
March	4	20	77	267	212729	3	952	—	62406	408	17	16	4692
April	3	5	80	39	198174	3	974	—	60394	277	11	57	4153
May	7	30	110	79	215542	—	1492	—	65839	700	14	22	5414
June	6	9	64	43	219742	1	1535	—	62664	395	8	5	5528
July	5	56	608	368	216424	1	1975	—	64770	1514	52	20	5142
August	15	80	110	49	224078	—	2443	—	65952	949	17	8	5729
September	5	8	119	54	213685	2	2087	—	60369	340	27	14	4899
October	6	14	72	41	210935	7	2120	—	58712	197	11	13	5049
November	6	8	192	44	214937	2	1698	92	57993	228	3	14	4839
December	12	11	176	30	202135	1	1056	50	58735	410	10	15	4492
TOTALS	75	339	2047	1395	2514368	22	17634	142	732295	6288	211	191	58047

ANTIMALARIA STATISTICS FOR THE YEAR 1933.

VILLAGES.

	Number of visits to villages	Number of new wells and cisterns found	Number of other new possible breeding places found	Number of places in which mosquito larvae found	Number of places oiled	Number of places closed repaired and made mosquito proof	Number of persons treated with quinine	Number of prosecutions	Number of kilos of Paris Green used	Number of kilos of solar oil used	Grammes of quinine expended
January	1292	165	72	1510	23569	177	62	2	5	2896	496
February	1376	144	23	1887	26119	303	70	24	2	3450	560
March	1429	212	60	1525	26792	165	53	65	15	3588	424
April	1401	367	240	1336	25734	316	61	67	129	3364	480
May	1485	110	49	1234	24661	224	65	178	159	3576	520
June	1545	131	19	857	23691	250	88	27	192	3227	704
July	1404	38	16	861	20874	248	66	20	240	3105	528
August	1444	44	264	541	19513	135	101	13	236	3918	808
September	1392	50	5	531	17375	68	126	42	291	3042	688
October	1366	15	1	525	16813	20	167	37	262	3092	2779
November	1375	50	6	712	16150	116	110	13	236	3126	540
December	1337	18	71	652	19148	13	170	—	103	2399	1086
TOTALS	16846	1344	826	12171	260439	2035	1139	488	1870	37783	9613

Hydrophobia.

Antirabic measures and treatment.

42. There were 3 deaths from hydrophobia to which reference has already been made. There was an unusually high prevalence of rabies in animals during the early months of the year and representations were made in conjunction with the Veterinary Section of the Department of Agriculture to stimulate destruction of vagrant dogs, cats, and jackals.

A revision of the Rabies Rules was undertaken in conjunction with other interested Departments—Police and Agriculture—and as a result of the representations made, decision was made by Government to embody the powers for the control and prevention of rabies in a separate enactment which it is hoped will be promulgated early in the coming year.

1372 persons applied for advice and antirabic treatment at the various treatment centres throughout the country. There are now 29 centres of which 16 are conducted by Government Medical Officers and 13 by civil practitioners in the employ of settlements or the Kupat Cholim Medical Benefit Society. Supplies of antirabic vaccine prepared by the Central Laboratories are furnished to these non-Government treatment centres free of charge. All antirabic treatment at Government and other centres receiving Government vaccine is free of charge to the patient.

Animals Destroyed.

43. There were 11,929 animals destroyed during the year in the course of the antirabic measures undertaken by the Department of Agriculture, the Police, and the various Municipalities as follows:—

	Number of Animals killed in Antirabic Measures 1933.				
	Dept. of Health.	Dept. of Agriculture.	Dept. of Police and Prisons.	Municipalities.	Total.
Jerusalem	—	—	—	1436	1436
Ramallah	1	153	10	9	173
Bethlehem	—	—	25	19	44
Hebron	—	246	46	—	292
Beersheba	—	50	—	198	248
Jaffa	—	191	—	—	191
Tel-Aviv	—	650	—	2191	2841
Ramle	—	711	—	—	711
Gaza	—	673	—	—	673
Majdal	—	59	—	—	59
Haifa	—	381	92	679	1152
Acre	—	—	—	121	121
Nazareth	—	—	31	207	238
Nablus	—	46	79	47	172
Tulkarem	—	90	154	—	244
Tiberias	—	1498	561	362	2421
Safad	—	460	—	80	540
Jenin	—	250	123	—	373
TOTALS.	1	5458	1121	5349	11929

SECTION III.

Medical.

Hospitals and Dispensaries.

Government and Municipal Hospitals.

44. The total number of beds available in Government and Municipal Hospitals was 583 of which 444 were reserved for general cases and 139 for infectious diseases.

The daily average number of beds occupied was 425.5. The total number of admissions was 12,689 of which 5566 were Moslems, 1755 Christians and 5351 Jews. The total number of sick days amounted to 152,893.

Patients treated included 73 members of His Majesty's Forces, 6 Trans-Jordan Frontier Force, 360 British Police, 369 Palestine Police, 321 Railway employees, 507 other Government employees and 204 prisoners.

In addition to these patients there were 951 prisoners treated by the Department in the sick detention wards of the Central Prisons, and 25 prisoners suffering from tuberculosis were admitted to the special ward of Acre Prison.

It was necessary during the year to utilize a considerable number of beds in the general medical wards for enteric fever cases.

THE HAIFA GOVERNMENT HOSPITAL was extended to the adjacent St. Luke's building and provided 50 additional beds. Considerable alterations to the building were necessary before occupation.

An additional ward, equipped and staffed for serious cases, was opened at the Acre Central Prison Sick Bay. This prison now contains a Tuberculosis Section of 20 beds, a Criminal Lunatic Section of 14 beds, and a Sick Bay of 26 beds. The nursing staff consists of trained medical orderlies, assisted by good conduct prisoners.

ACRE MUNICIPAL HOSPITAL was closed down on the opening of the extension to the Haifa Government Hospital.

AT SAFAD, an existing building in a fine situation on the brow of the hill overlooking the Sea of Galilee 2800 feet below, was reconstructed and an additional wing added. The hospital accommodates 25 beds and is designed primarily for the treatment of enteric fever and dysentery from Safad and Tiberias sub-districts during the summer and casualties during the winter. It fully justified its establishment during the whole year, and was much appreciated by all communities.

Ramleh Casualty Post and the general and ophthalmic clinics were transferred to a new and more commodious building, and a resident nurse installed.

This populous sub-district numbering 70.579 inhabitants requires a hospital. As it is, the Casualty Post can only take in accidents, which it transfers to an overcrowded Jaffa Municipal Hospital. The general and ophthalmic clinics have daily attendances frequently exceeding 500 persons.

AT JAFFA, the number of enteric cases necessitated the opening of the Quarantine Lazaret as an overflow hospital. This entailed its closure for quarantine purposes and limitation of the number of immigrants landing at Jaffa to those that could be dealt with during the day. The remainder of all persons requiring detention in Quarantine were dealt with at Haifa.

AT BEERSHEBA, on the strong representations of the people the accommodation at the Casualty Post was expanded to eight beds, and the nursing staff increased.

AT JERUSALEM, a large building adjacent to the Government Hospital, known as Bute House, was completely reconstructed by the owner, Lord Bute, and adapted to provide quarters for British Nursing Sisters and Palestinian Nursing Staff, and a 1st and 2nd Class British Hospital Section on the top floor — 5 private wards, 2 IInd class wards of 2 beds each, and one ward of 6 beds for British Police, and Army and R. A. F. urgent cases.

The concentration on the same floor of both male and female cases has simplified and improved the duties of nursing sisters. The section was re-equipped and provided with a subsidiary operating and delivering room.

A Committee was appointed to report on the administration of the Tel-Aviv Municipal Hospital with a view to effect economies and a reorganization and improvement of its services. Considerable economies were recommended. Reorganization in this direction is most necessary. A grant-in-aid based on the cost of technical services as supplied by the Department in the case of other Municipal Hospitals was decided upon.

A capital credit of £P. 3000 was granted by Government towards the construction of nurses quarters and laundry at the Kupat Cholim Hospital in the Emek.

The following structural improvements were carried out in Government and Municipal Hospitals:—

GOVERNMENT HOSPITAL, JERUSALEM.

(a) Additional building reconstructed by owner and acquired for nursing staff and British Section Wards.

(b) Ventilating fan installed in operating room.

MENTAL HOSPITAL NO. 1, BETHLEHEM.

(a) Additional staff quarters constructed to accommodate 8 nurses.

(b) Electric light installed.

(c) Hot water installation for bath-rooms, kitchens etc.

(d) Renovation of bathrooms.

(e) New stove and boiler in kitchen.

CASUALTY POST, BEERSHEBA.

Renovated completely and roof repaired.

MUNICIPAL HOSPITAL, JAFFA.

(a) X-Ray rooms constructed.

(b) Two store-rooms for infected linen and clothing constructed.

(c) Fencing of hospital completed.

MUNICIPAL HOSPITAL, GAZA.

(a) General improvement of operating theatre and sanitary block.

(b) Boundary walls erected.

(c) New kitchen range installed.

(d) Pharmacy remodelled.

GOVERNMENT HOSPITAL, HAIFA.

(a) Garage for ambulance constructed.

(b) X-Ray installed.

WATAN HOSPITAL, NABLUS.

The following new constructions and additions were commenced during the year:—

(a) Infectious Diseases Block.

(b) Maternity Section and Nurses Quarters.

(c) X-Ray Section and Pharmacy.

(d) Stores and Disinfecting Room.

(e) Electric light installation.

GOVERNMENT HOSPITAL, SAFAD.

(a) New building acquired, enlarged and completely renovated and equipped for 25 beds.

(b) Garage for ambulance provided adjoining the hospital.

Radiology.

45. The X-Ray Section at the Government Hospital, Jerusalem, dealt with 1022 cases and 2285 radiographs were taken. An X-Ray section was opened at the Haifa Government Hospital on 1st July at which 184 cases were dealt with and 308 radiographs taken. A section was constructed at the Municipal Hospital, Jaffa, and an X-Ray set is ready for installation. At the Watan Hospital, Nablus, a section was under construction and a portable set is available and will be installed as soon as the section is ready to receive it.

(a) VISITS AND CONSULTATIONS.

Hospital Surgery & Medical care of British Community by Surgeon Specialist.

46. 9074 visits and consulations at home, in hospital and clinics are recorded for 1933. Most of these cases were in Jerusalem and district. There was a slight increase in the numbers of visitors to the country who required attention.

There was nothing of an epidemic nature encountered during the year; respiratory and intestinal affections were fairly common at the usual seasons and any infectious cases were independent of any special outbreak. Jaundice was prevalent in the spring and autumn more than any year before. Appendicitis appeared in the usual proportion. There seemed to be more gastric and gallbladder conditions than formerly, and the nervous tension seen in many cases may have had reference to the peculiar climatic conditions throughout the year.

(b) BRITISH SECTION, GOVERNMENT HOSPITAL, JERUSALEM.

There were 248 admissions classified as follows:— 129 British Police, 17 male Government Officials, 2 Trans-Jordan Frontier Force, 14 Army, Air Force & Navy, 13 non-officials (of whom 8 were visitors, 73 women & children (8 being Government Officials). The greatest number were in the latter half of the year, and on the whole there were more severe cases than usual throughout the year.

Seven deaths occurred, in all of which a fatal termination was almost expected from admission. They were as follows:- Septicaemia following peritonitis from ruptured pyloric ulcer, chest injuries from car accident, oedema of the lungs in a new born child (albuminuria in the mother), acute nephritis in a case of asbestosis of the lungs with recent delivery, paralysis in fracture of the spine, exhaustion from diarrhoea in an elderly woman who was an invalid for 40 years, embolus in the lungs from a septic compound fracture of both legs. 17 deliveries, 10 male and 7 female were carried out, forceps being required in 4, podalic version in one, and Caesarean Section in one.

83 major operations were performed on British patients, 20 being for appendix of whom 10 were in the Police; 12 other abdominal operations were necessary 5 being for gall-bladder conditions, 7 hernias were dealt with, one case of pyloric stenosis (congenital) had an excellent result (the mother suffered from asbestosis of the lungs).

The latter half of the year was exceptionally busy both in outside cases and admissions, the highest numbers being in September, October and November. This combined with the extra work entailed in visits to Haifa made the supervision of cases rather difficult and it was with a sense of relief that the new addition to the hospital accommodation available in Bute House in October eased the situation in concentrating nursing for British patients under one roof. The independent and systematic care now possible is a distinct improvement on the former arrangements.

(c) SURGERY IN JERUSALEM HOSPITAL.

1073 operations were performed in the year, 417 being major. Mutual assistance with the Medical Officer of the Hospital and others attached to the staff served to make the work straightforward; the majority of the cases were under the care of the Medical Officer. Obstetrical interferences have increased, but other cases are in the usual proportions. More hernias were done, but many had to be refused on account of more urgent cases having prior claims. The attached list will give some indication to the variety.

(d) DISTRICT AND OTHER HOSPITALS.

118 visits were made to hospitals apart from the above:—

GOVERNMENT & MUNICIPAL :—

Haifa	20
Acre	1
Nablus	13
Jaffa	14
Bethlehem	1
Safad	1

NON-GOVERNMENT :—

Scottish Mission, Tiberias	1
R.A.F. Sarafand	8
Italian Hospital, Amman	1
Hadassah, Tel-Aviv	4
C.M.S. Jaffa	1
Others in Jerusalem	53
	118

(e) HOSPITAL AMENITIES.

Jerusalem has benefitted considerably by the addition of Bute House for the accommodation of 15 British patients and of sisters, nurses and other staff of the hospital. The provision of a delivery room in this building helps very much and this room is available for clean operations when transfer to the theatre in the General Hospital is considered inadvisable. Two balconies are available for open air treatment and heliotherapy. The British Police have a separate wing but the supervision of all cases is under one control and nursed by the British Nursing Staff.

The readjustment of accommodation in Haifa has resulted in much the same centralization of British patients in one part. Till such time as a proper hospital is available, inconvenience of transport to the operation theatre and X-Ray in another building must occur.

X-Ray facilities are being advanced in the four largest hospitals and installations will all shortly be in use. Haifa has a trolley set which is giving good results but these subsidiary sets are not intended to do all forms of X-Ray work. The X-Ray section in Jerusalem shows an increase in spite of these outside additions, 1022 cases and 2265 films being the maximum so far. In this section a steady increase in the number of gastric cases is met and this year there were more gall-bladder and kidney demands than usual.

(f) MAJOR OPERATIONS — JERUSALEM HOSPITAL.

These include the following:—

Amputations	14
Amputation of Breast	1
Appendicectomy	50
Cholecystectomy	2
Cholecystotomy	3
Cholecystgastrostomy	1
Enterorrhaphy	6
Fractured skull	10
Gastro-enterostomy	2
Gastrorrhaphy	1
Gynaecological	26
Hysterectomy	2

Herniotomy		33
Haemorrhoidectomy		8
Hydatid of Liver		1
Laminectomy		1
Laporatomy (stab wounds etc.)		9
Lithotomy (suprapubic)		3
Nephrectomy		1
Nephro-lithotomy		2
Mastoidectomy		2
Obstetrical — Caesarean Section	1	
Embryotomy	6	
Forceps	14	
Ovariotomy	1	
Version	18	
Others	53	93
Pyloroplasty		1
Resection of rib		2
Sequestrotomy		4
Tonsillectomy		11
Tumours (excision)		11

(g) DISEASES OF BRITISH PATIENTS ADMITTED TO HOSPITAL.

	RESIDENTS		VISITORS	
	Cases	Deaths	Cases	Deaths
GENERAL DISEASES				
Influenza	8	—	—	—
Sandfly Fever	18	—	—	—
Disseminated Sclerosis	1	—	—	—
Graves' Disease	1	—	—	—
RESPIRATORY SYSTEM				
Tonsils and adenoids	10	—	—	—
Nasal Septum	1	—	—	—
Broncho-Pneumonia	1	—	—	—
Asthma	—	—	1	—
Bronchitis	—	—	1	—
Tuberculosis of Lungs	1	—	—	—
Abcess of Lungs	1	—	—	—
Asbestosis of Lungs	1	—	—	—
Chest injuries	3	1	—	—
Oedema of Lungs (new born)	1	1	—	—
Pleurisy	1	—	—	—
ALIMENTARY SYSTEM				
Gastritis	5	—	—	—
Gastric ulcer	1	—	—	—
Duodenal Ulcer	3	—	—	—
Pyloric Stenosis	2	—	—	—
Cholecystitis with stones	4	—	—	—
Jaundice	9	—	—	—
Appendicitis	20	—	—	—
Diarrhoea	8	—	2	1
Dysentery Bacillary	1	—	—	—
Haemorrhoids	3		—	—
FEMALE REPRODUCTIVE SYSTEM				
Confinements	17	—	—	—
Observation Pregnancy	4	—	—	—
Retroversion	4	—	—	—
Incomplete abortion	3	—	—	—
Menorrhagia	2	—	—	—
Dysmenorrhoea	1	—	—	—

	Residents		Visitors	
	Cases	Deaths	Cases	Deaths
BONES AND JOINTS.				
Sprains	11	—	—	—
Fractures — Spine	1	1	—	—
,, Compound Legs	4	1	2	—
Dislocation Shoulder	1	—	—	—
Synovitis knee	5	—	—	—
INFECTIOUS.				
Scarlet Fever, Chicken Pox, Measles, Mumps, Gonorrhoea each one	5	—	—	—
Impetigo	3	—	—	—
VARIOUS.				
Ear conditions	5	—	—	—
Eye conditions	3	—	—	—
Boils	6	—	1	—
Wounds and cuts	12	—	—	—
Hyperpiesia	2	—	—	—
Hernia	7	—	—	—
Concussion	5	—	—	—
Shock	1	—	—	—
Carcinoma Breast	1	—	—	—
Calculi Kidney	1	—	—	—
Renal Colic	2	—	—	—
Nephritis	1	1	—	—
Lumbago and Sciatica	1	—	1	—
Various	29	—	—	—
	241	5	8	1

One death occured in addition in a patient who was admitted in 1932.

Medical Care of British Community of Haifa and District by the Senior Medical Officer, Railways.

47. (a) The Senior Medical Officer Railways was on vacation leave from the 1st of June until the 15th of November, and during this time he was relieved by the Senior Medical Officer Haifa.

The Surgeon Specialist, Jerusalem, paid regular weekly visits to Haifa and attended in cases of emergency.

The numbers of British inhabitants in Haifa and District have increased in the course of the year, and the medical work has increased accordingly, both in and outside the Hospital.

The St. Luke's extension to the Government Hospital was opened in June and the British Section was transferred to this building where there is a convenient self-contained block of rooms. The number of beds has proved adequate to the increased demands.

The nursing establishment of two British Nursing Sisters was virtually reduced to only one during the summer, the other one having to relieve the Matron, who was on leave.

The need was felt of three Nursing Sisters on the ordinary establishment of Haifa to allow of there being a Night Sister, whose primary care would be that of the British Section, but who should also supervise the nursing in the other sections of the Hospital, and who would also be available in special cases for relief duty.

The Senior Medical Officer, Railways, has closely cooperated with the Medical Officer in charge of the Hospital, in the general work of the Hospital, both surgical and medical.

The X-Ray installation has proved of great assistance within the limits of the scope of the particular machine.

(b) The health of the British Community is generally very good.

(c) In all, there were 219 British patients treated in Hospital — an increase af 85 on the previous year.

This number was contributed from the following categories:—

British Police	105
Army	46
Navy	5
Other Government Officials	16
Women and Children	23
Non-Government men	24
	219

There was one death in the course of the year viz: a girl aged four years, from Enteric.

Another death in the British Community, taking place outside the Hospital, was of a man who took Lysol with suicidal intent.

(d) There was a daily average of six consultations either at the Hospital or at private houses.

(e) Visits have been made to British Police Billets at Nazareth, Acre and Haifa.

In Haifa there was considerable difficulty in finding suitable billets in time for the transfer of men from the large billet on Carmel, which was closed down.

Many of these quarters are still far from desirable and the large increase in Police admissions to Hospital this year, as compared with 1932 — viz. 1932 = 66 and 1933 = 105, bears witness to the better health conditions obtaining at the old Carmel billet, and from the medical point of view the change is definitely for the worse.

Government and Municipal Dispensaries.

48. There are 15 Government Clinics, 3 Medical Inspection Rooms, 10 Railway Clinics and 1 Municipal Clinic.

Medical Officers of Sub-Districts extend treatment to Villagers on their tours of inspection and regular weekly or fortnightly clinics are held in 9 villages.

In Government Dispensaries medical aid is limited to Government employees and to the poor, except where no private practitioner or other medical assistance is available. A small charge for treatment and medicine is made to those who can pay.

There were 357736 attendances for treatment during 1933 as compared with 291306 in 1932.

Attendances at Government Village Clinics during 1933 were 21371 as compared with 6976 during 1932.

Voluntary Hospitals and Clinics.

49. The nominal bedstrength of voluntary hospitals was 1629 including special hospitals for ophthalmic diseases, leprosy, tuberculosis and convalescent homes.

Beds available for general, medical and surgical treatment were 1459.

A considerable number of beds in voluntary hospitals were not opened up on account of shortage of funds. Of the 1459 general beds available the daily average occupied was 877.0.

The total admissions were 25418 of which 12131 were Jews, 7412 Moslems and 5875 Christians and others.

Attendances at clinics were 1190114 as compared with 1172585 in 1932. Attendances at village clinics were 470192 as compared with 452881 in 1932.

The following table indicates the work done at these village clinics:—

	No. of Clinics held.	Total attendances.	Total.	Malaria.	Eye Diseases.	Other Diseases.	Moslems.	Christians.	Jews.	Others.
Jewish Federation of Labour.	12396	262087	113412	581	6437	106394	1981	63	111368	—
Rural Sick Benefit Fund.	7209	165280	29759	312	4289	25158	3017	52	26690	—
Jewish Settlement Committees.	1803	29855	9217	110	1495	7612	1743	28	7446	—
Church Missionary Society.	345	12090	4816	249	854	3713	3970	846	—	—
Jerusalem and the East Mission.	36	756	430	3	77	350	430	—	—	—
Salesian Brothers.	5	124	124	—	48	76	124	--	—	—
Totals.	21794	470192	157758	1255	13200	143303	11265	989	145504	—

A classification by religions of the 696848 new patients attending Government and Voluntary outpatient dispensaries and village clinics, and a similar classification of the 40435 admissions to hospitals are as follows:—

	Outpatients.	Admissions to Hospital.
Moslems	223098	13996
Jews	416492	18663
Christians and others	57258	7776

Under this classification the following are the new attendances and admission rates in each group of the population:—

	Outpatients.	Admission to Hospital.
Moslems per 1000	308.4	19.3
Jews „ 1000	1990.8	89.2
Christians and Others per 1000	541.7	73.6

The Hadassah Medical Organisation maintained the Rothschild Hospital at Jerusalem of 144 beds and contributed towards the Tel-Aviv Town-ship Hospital and the Haifa Jewish community Hospital. It maintained a School Medical Service, 23 Infant Welfare centres, and a Tuberculosis Hospital of 40 beds at Safad. To each of the latter services, the Government gave grants-in-aid. The organization associated with the Kupat Cholim, a Workmen's Health Insurance Society, maintaining a large number of doctors and nurses in Jewish Colonies.

The participation of the Hadassah Women's Zionist Organization in the provision of funds for maintenance of Hadassah Medical Work, was again reduced considerably. This, however, did not impair the work, thanks to:—

(a) the Government grants to Tel-Aviv Township Hospital and to Safad Tuberculosis Hospital, and to the Infant Welfare and School Medical Services, and

(b) increased revenues from Jewish municipal bodies, community organizations and patients' fees.

The total credits disbursed by the Hadassah Organization were £P. 98,970 of which £P. 57,744 was contributed by the Hadassah Womens Zionist Organisation.

The Kupat Cholim, with a total income of £P. 72,572 maintained the Emek Hospital of 43 beds to serve a Jewish Community settled therein of about 6000 persons, conducted 2 Convalescent Homes, 26 clinics, and cooperated in the provision of doctors and nurses to settlements and opened up a Hospital for rheumatic cases at Tiberias, in the Schweitzer Hospital building, during the year.

The Shaare Zedek Hospital and the Bicur Cholim Hospital in Jerusalem and several private hospitals and convalescent homes in Haifa, Tel-Aviv and Jerusalem, added to the provision for Jews who occupied 46.15% of the total available Hospital accomodation in Palestine.

Very good work was carried out and a very complete, if expensive, medical service was provided for the Jewish community.

Although all Government and Municipal Hospitals are open to Jews, and the majority of cases of communicable disease and all infectious cases requiring hospital treatment are admitted to Government Hospitals, the Jews as a rule prefer the purely Jewish Hospitals.

The Church Missionary Society continued to maintain Hospitals at Jaffa, Nablus and Gaza; the Scottish Mission, a Hospital at Tiberias; the Edinburgh Mission, a Hospital at Nazareth; the Jerusalem & the East Mission a Hospital at Hebron, and the English Mission to the Jews a Hospital in Jerusalem.

The Hospitals at Tiberias, Nazareth and Hebron definitely filled a gap in the hospital provision for the population in these areas which otherwise would have had to be provided by the Government, and did valuable work during the year.

The French Hospitals at Jerusalem, Bethlehem, Jaffa, Nazareth; the Italian Surgical Hospitals at Jerusalem and Haifa, and the German Hospitals in Jerusalem, Jaffa and Haifa continued their good work. A large and up-to-date building was opened for the Italian Hospital at Haifa during the year and will serve a very useful purpose in this rapidly growing town.

The Ophthalmic Hospital of the Order of St. John continued its valuable work, and undertook the post graduate training in ophthalmology of 1 Government Medical Officer and 4 nurses, and refresher courses to 2 Medical Officers and 7 nurses.

There are still large gaps in the Medical provision for the country and these are particularly noticeable at Ramleh sub-district with a population of 70,579, and at Jenin sub-district with a population of 41,411 (1931 Census), while at Safad, the small hospital for communicable diseases and for emergency cases is already insufficient in size for the needs of the district. Voluntary hospitals in these districts would be welcomed, and the specialisation of some of the hospitals, where beds are superfluous to requirements, to make provision for tubercular, incurable and mental cases, would be valuable.

Training of Nurses.

50. The annual examinations for the Government graduate nurse's certificate were held in April and October, and were conducted by examining boards appointed from the doctors and matrons of hospitals recognised as training schools.

The following are the results of the examinations:—

Name of Training School	1st Year	2nd Year	3rd Year
Government and Municipal Hospitals	9	10	7
Hadassah (Rothschild) Hospital, Jerusalem	14	10	7
Church Missionary Society Hospitals	4	1	5
English Mission Hospital, Jerusalem	2	2	1
Edinburgh Medical Mission Hospital, Nazareth	3	1	—
Scottish Mission Hospital, Tiberias	1	4	2

Since 1920, 340 nurses have passed the examination and have been awarded the Graduate Nurse's Certificate.

Ten graduate nurses completed the 6 months' course of training at the Midwives Training School of the Department in Jerusalem.

Four nurses were given a 4 months' course of training and 7 took refresher courses in Ophthalmic nursing at the St. John (Ophthalmic) Hospital, Jerusalem.

HOSPITAL NURSING STAFFS - 1933.

Name of Organization	Bed Strengths	Matrons	Staff Nurses	Nurses Under Training			Number not Under Training	Total
				1st Year	2nd Year	3rd Year		
GOVERNMENT AND MUNICIPAL HOSPITALS Including Bethlehem Mental Hospitals, Beersheba, Acre and Ramle Casualty Posts	730	15	83	32	10	11	49	200
VOLUNTARY HOSPITAL ORGANIZATIONS								
Hadassah Medical Organization	248	3	40	22	10	13	15	103
Church Missionary Society	165	4	8	8	3	4	3	30
Kupat Cholim	121	2	6	—	—	—	8	16
Tutors and Protectors of the Jewish Community in the Holy Land, Amsterdam	53	1	3	—	—	—	13	17
Misgab Ladach	22	1	4	—	2	2	—	9
Bicur Cholim Society	94	3	—	—	—	—	23	26
Italian Hospital, Jerusalem	60	1	16	—	—	—	—	17
Church Mission to the Jews	70	1	4	2	2	2	—	11
The Order of Saint John of Jerusalem in England	45	3	—	—	—	—	—	3
International Moravian Church, London	60	1	3	—	—	—	—	4
German Deaconness Hospital, Jerusalem	60	1	8	7	5	—	4	25
German Temple Society, Jaffa	20	—	1	1	—	—	2	4
Jérusalem and the East Mission	36	1	2	4	1	—	—	8
Italian Association, Haifa	50	1	9	—	—	—	—	10
St. Charles Congregation, Haifa	30	1	4	—	—	—	3	8
Edinburgh Medical Mission Society	50	1	3	4	3	2	—	13
United Free Church of Scotland	60	2	2	3	3	4	1	15
Ezrath Nashim Women's Society Home for Insane and Incurables	56	—	2	—	—	—	14	16
French Hospitals	376	4	32	5	7	6	12	66
TOTALS	2406	46	230	88	46	44	147	601

GOVERNMENT DISPENSARIES AND CLINICS EXCLUSIVE OF OPHTHALMIC AND OTHER SPECIAL CLINICS — 1933.

Location	Total Number of Attendances	New Cases							
		Total New Cases	By Diseases			By Religions			
			Malaria	Eye Diseases	Other Diseases	Moslems	Christians	Jews	Other Religions
Jerusalem Dispensary	18098	9519	8	96	9415	5944	1964	1611	—
Ramallah ,,	2174	1948	20	57	1871	1243	705	—	—
Hebron ,,	1870	1409	—	40	1369	1337	72	—	—
Beersheba ,,	9014	3443	88	—	3355	3182	247	14	—
Jaffa ,,	42352	12553	—	—	12553	11081	705	767	—
Ramleh ,,	33545	10326	71	—	10255	9177	1093	56	—
Gaza ,,	7291	5273	—	—	5273	4881	392	—	—
Majdal ,,	43721	9023	—	570	8453	8961	57	5	—
Haifa ,,	12140	4295	34	260	4001	2505	1179	598	13
Acre ,,	6990	3257	170	32	3055	2305	828	82	42
Nablus ,,	34067	14636	175	—	14461	14443	192	1	—
Tulkarem ,,	15744	3106	73	—	3033	3034	71	1	—
Jenin ,,	11473	5771	69	979	4723	5508	263	—	—
Beisan ,,	17599	8001	489	2914	4598	7345	603	53	—
Safad ,,	23891	6814	49	1759	5006	6113	503	180	18
Nazareth Medical Inspection Room	3592	3119	6	27	3086	2041	1047	31	—
Tiberias ,, ,, ,,	4404	2911	58	1163	1690	2414	186	310	—
Bethlehem ,, ,, ,,	667	179	2	—	177	84	92	3	1
Tel-Aviv Municipal Dispensary	69104	11526	42	1865	9619	—	—	11526	—
TOTALS	357736	117109	1354	9762	105993	91598	10199	15238	74

GOVERNMENT AND MUNICIPAL HOSPITALS—1933.

GENERRL AND INFECTIOUS

Location of Hospital	Bed Strength				Admissions					Deaths	Dis-charges	Daily average in Hospital	Remarks
	General	Isolation	British	Mater-nity	Moslems	Christ-ians	Jews	Other Religions	Total				
Jerusalem, Government	70	11	6	16	1223	823	140	4	2190	109	2075	70.0	
Haifa, Government	75	40	7	8	902	496	515	7	1920	105	1804	67.7	
Safad, Government	—	25	—	—	184	26	75	1	286	7	256	19.5	Opened 14-7-33
Acre, Municipal	24	5	—	—	71	11	2	4	88	7	96	9.8	Closed 1-3-33
Jaffa, Municipal	41	25	7	—	1380	284	521	—	2185	136	2039	65.6	
Gaza, Municipal	20	9	2	2	492	48	—	1	541	39	503	15.8	
Nablus, Watan	57	4	—	4	1305	60	—	—	1365	80	1278	45.5	
Tel-Aviv, Township	73	20	—	32	8	9	5281*	—	5298*	200	5094*	158.4*	*Includes new born babies
TOTALS	360	139	22	62	5565	1757	6534	17	13873	683	13145	452.3	

PRISON SICK DETENTION WARDS.

Jerusalem	12	299	20	36	—	355	—	350	6.5	
Acre, General Ward	26	522	35	36	3	596	3	590	21.3	
Acre, Tuberculosis Ward	20	21	2	1	1	25	3	21	16.2	
Acre, Criminal Lunatics Ward	14	4	—	1	—	5	—	5	12.8	
TOTALS	72	846	57	74	4	981	6	966	56.8	

VOLUNTARY HOSPITALS—1333

Name and Location of Hospital	Nominal Bed Strength	Admissions					Deaths	Discharges	Daily Average in Hospital	Remarks
		Moslems	Christians	Jews	Unclassified and other Religions	Totals				
JERUSALEM.										
Ophthalmic Hospital of the Order of St. John of Jerusalem	45	1012	129	15	—	1156	—	1165	36.6	
St. Louis (French) Hospital	150	572	735	13	—	1320	37	1283	43.0	
Italian Hospital	60	201	139	20	11	371	8	360	15.0	
Rothschild (Hadassah) Hospital	144	13	4	3904	—	3921	293	3630	136.3	
English (Church Mission to Jews) Hospital	70	11	52	1301	—	1364	30	1343	45.7	
Shaare Zedek Hospital	53	5	3	967	—	975	36	943	31.5	
Misgab Ladach Hospital	35	—	—	264	—	264	18	239	12.0	
New Bicur Cholim Hospital	74	1	7	1474	—	1482	89	1393	48.4	
Old Bicur Cholim Hospital	20	—	—	17	—	17	12	3	18.8	
Leper Hospital (International Moravian Society)	60	6	—	2	—	8	—	3	21.0	
Deaconness (German) Hospital	60	948	819	21	—	1788	66	1697	59.5	
Convalescent Home (Kupat Cholim) Motza	78	—	—	1164	—	1164	—	1152	64.3	
BETHLEHEM										
French Hospital	80	253	581	1	—	835	22	823	30.0	
HEBRON										
Jerusalem and the East Mission Hospital	32	652	4	6	—	662	51	623	16.3	
JAFFA										
Church Missionary Society Hospital	57	—	—	—	1023	1023	24	1004	26.5	
German Hospital	20	27	99	10	—	136	4	135	4.9	
French Hospital	90	1315	243	73	—	1631	77	1532	55.3	

VOLUNTARY HOSPITALS, 1933 *(continued)*

Name and Location of Hospital	Nominal Bed Strength	Admissions					Deaths	Discharges	Daily Average in Hospital	Remarks
		Moslems	Christians	Jews	Unclassified and other Religions	Totals				
GAZA										
Church Missionary Society Hospital	63	—	—	—	874	874	33	802	26.6	
HAIFA										
Hadassah Hospital	46	8	12	1832	—	1852	105	1725	52.1	
German Hospital	30	282	326	242	21	871	30	827	23.0	
Italian Surgical Hospital	50	191	116	42	8	357	6	360	14.1	
NAZARETH										
Edinburgh Medical Mission Hospital	50	1190	238	4	3	1435	86	1346	46.2	
Freuch hospital (Soeurs de Charité)	56	368	322	5	—	695	17	679	16.4	
AFFULA										
Kupat Cholim Hospital	43	—	—	1183	—	1183	12	1154	36.0	
NABLUS										
Church Missionary Society Hospital	45	621	94	—	4	719	27	691	15.6	
TIBERIAS										
United Free Church of Scotland Hospital	60	729	113	298	10	1150	43	1104	49.3	
SAFAD										
Hadassah Hospital	58	25	14	454	—	493	29	462	54.5	
TOTALS	1629	8430	4050	13312	1954	27746	1155	26478	998.9	

VOLUNTARY DISPENSARIES AND CLINICS — 1933.

Name of Dispensary or Clinic	Total Attendances	New Patients								Remarks
		Totals	By Disease			By Religions				
			Malaria	Eye Disease	Other Diseases	Moslems	Christians	Jews	Undefined and other Religions	
JERUSALEM										
Shaare Zedek Hospital	23601	3657	—	—	3657	199	37	3421	—	
Misgab Ladach Hospital	14508	7479	—	1088	6391	403	37	7039	—	
St. Louis (French) Hospital	30535	14435	112	3516	10807	6686	6379	1370	—	
Ophthalmic Hospital of the Order of St. John	89895	20525	—	20525	—	14920	3758	1847	—	
Rothschild (Hadassah) Hospital	79074	14877	-	2608	12269	84	135	14658	—	
Church Mission to Jews Hospital	30624	9677	3	628	9046	188	201	9288	—	
Armenian Convent Dispensary	299	87	—	9	78	—	87	—	—	
Italian Hospital	7132	2095	—	—	2095	1082	617	396	—	
New Bicur Cholim Hospital	10654	3304	—	—	3304	—	—	3304	—	
Old Bicur Cholim Hospital	2071	2071	—	—	2071	—	—	2071	—	
Kupat Cholim Dispensary	67549	21924	—	994	20930	337	—	21587	—	
Moslem Polyclinic	9618	8843	15	25	8803	8718	120	5	—	
German (Deaconness)	24254	13955	—	—	13955	7469	3192	3294	—	
RAMALLAH										
Soeurs de St. Joseph (French)	4090	3888	—	3267	621	1769	2119	—	—	
BETHLEHEM										
French Hospital	16927	3031	—	1691	1340	1660	1371	—	—	
HEBRON										
St. Luke's (Jerusalem and the East Mission)	8283	3080	16	430	2634	3020	28	32	—	
Moslem Polyclinic	3343	3174	—	29	3145	3173	—	1	—	
Porath Joseph	10348	1083	—	420	663	165	—	918	—	

VOLUNTARY DISPENSARIES AND CLINICS — 1933 *(Continued)*

Name of Dispensary or Clinic	Total Attendances	New Patients								Remarks
			By Disease			By Religions				
		Totals	Malaria	Eye Disease	Other Diseases	Moslems	Christians	Jews	Undefined and other Religions	
JAFFA										
Church Missionary Society Hospital	8984	5349	283	96	4970	—	—	—	5349	
Church of Scotland Dispensary	3817	3090	38	—	3052	1480	7	1603	—	
French Hospital	41956	5064	44	2011	3009	5064	—	—	—	
St. George's Dispensary	4804	3557	—	24	3533	1612	1942	3	—	
Agudath Yisrael Dispensary	12696	4817	—	796	4021	1775	—	3042	—	
Kupat Cholim Dispensary	299868	80715	70	12431	68214	74	—	80641	—	
Jewish Medical Organization, Shenkin Street	14887	5637	3	489	5145	3	—	5634	—	
Jewish Medical Organization, Yehuda Halevi Street	44650	15299	—	1603	13696	—	—	15299	—	
GAZA										
Church Missionary Society Hospital	6662	3855	83	202	3570	3556	299	—	—	
HAIFA										
German Hospital	4280	3692	—	1092	2600	1892	1458	340	2	
Italian Hospital	8793	3676	58	1	3617	1855	705	1088	28	
Hadassah Hospital	25223	7207	—	1869	5338	227	93	6887	—	
Kupat Cholim Dispensary	111883	71102	—	4692	66410	6370	6850	57882	—	
Soeurs de Charité (French) Dispensary	15987	3125	561	407	2157	2068	950	55	52	
Moslem Medical Clinic	10567	8095	221	467	7407	7674	398	23	—	
British Mission to Jews Society	14371	3599	24	162	3413	373	869	2355	2	
Polyclinic J.M.A. Haifa	3121	1912	—	149	1763	7	11	1894	—	
NAZARETH										
French Hospital	16955	15774	25	2075	13674	11602	4129	43	—	
Edinburgh Medical Mission Hospital	9983	5661	9	813	4839	3642	1991	26	2	
Austrian Hospice Dispensary	5317	5317	—	2266	3051	3111	2206	—	—	
NABLUS										
Church Missionary Society Hospital	8029	3689	139	409	3141	3689	—	—	—	
TIBERIAS										
Scots Mission Hospital	13146	3666	272	359	3035	2446	345	825	50	
Hadassah Dispensary	49804	8529	—	3958	4571	1039	—	7490	—	
SAFAD										
Hadassah Hospital	21426	1465	—	13	1452	73	7	1385	—	
TOTALS	1190114	411077	1976	71614	337487	109505	40341	255746	5485	

TABLE OF PATIENTS IN GOVERNMENT, MUNICIPAL AND VOLUNTARY HOSPITALS — 1933.

Name of Hospital	British		Other Foreigners			Palestinians			Totals		
	Jews	Christians	Jews	Moslems	Christians and others	Jews	Moslems	Christians and others	Jews	Moslems	Christians and others
Misgab Ladach, Jerusalem	—	—	69	—	—	195	—	—	264	—	—
St. Louis (French), Jerusalem	—	1	4	6	117	9	566	617	13	572	735
Ophthalmic, Order of St. John, Jerusalem	—	1	—	1	1	15	1011	127	15	1012	129
Rothschild (Hadassah), Jerusalem	19	—	899	1	2	2986	12	2	3904	13	4
Church Mission to the Jews, Jerusalem	1	15	—	—	1	1300	11	36	1301	11	52
Ezrath Nashim, Jerusalem	1	—	15	—	—	31	2	—	47	2	—
Shaare Zedek, Jerusalem	7	—	348	1	—	612	4	3	967	5	3
Bicur Cholim (New), Jerusalem	6	—	78	—	—	1390	1	7	1474	1	7
Bicur Cholim (Old), Jerusalem	—	—	10	—	—	7	—	—	17	—	—
Italian, Jerusalem	—	—	4	4	53	16	197	97	20	201	150
German (Deaconness), Jerusalem	—	22	11	56	253	10	892	544	21	948	819
Convalescent Home, Kupat Cholim, Motza	—	—	—	—	—	1164	—	—	1164	—	—
French, Bethlehem	—	—	—	—	36	1	253	545	1	253	581
St. Lukes, Hebron	—	—	—	—	—	6	652	4	6	652	4
Church Missionary Society, Jaffa	—	—	—	—	—	—	—	—		← 1023* →	
French, Jaffa	—	2	26	12	29	47	1303	212	73	1315	243
German, Jaffa	—	—	1	—	55	9	27	44	10	27	99
Church Missionary Society, Gaza	—	8	—	—	—	—	835	31	—	835	39
German, Haifa	4	6	105	27	146	133	255	195	242	282	347
Italian, Haifa	1	1	2	6	29	39	185	94	42	191	124
Hadassah, Haifa	6	—	719	—	2	1107	8	10	1832	8	12
Edinburgh Medical Mission Society, Nazareth	—	5	1	1	5	3	1189	231	4	1190	241
French, Nazareth	—	—	—	24	24	5	344	298	5	368	322
Kupat Cholim, Affula	—	—	—	—	—	1183	—	—	1183	—	—
Scottish Mission, Tiberias	1	9	2	48	9	295	681	105	298	729	123
Hadassah, Safad	—	14	115	1	—	339	24	—	454	25	14
Church Missionary Society, Nablus	—	—	—	—	—	—	621	98	—	621	98
Total Voluntary Hospitals	46	84	2409	188	762	10902	9073	3300	13357	9261	4146
										← plus 1023* →	
Government General, Jerusalem	2	244	6	52	35	132	1171	548	140	1223	827
Government British Section, Jerusalem	—	—	—	—	—	—	—	—	—	—	—
Government, Haifa	1	217	273	5	30	241	897	256	515	902	503
Municipal, Jaffa	—	93	122	15	27	399	1365	164	521	1360	284
Municipal Gaza	—	9	—	4	3	—	488	37	—	492	49
Township, Tel-Aviv	4	5	2851	—	4	2426	8	—	5281	8	9
Municipal, Acre	—	—	1	—	—	1	71	15	2	71	15
Watan, Nablus	—	32	—	—	—	—	1305	28	—	1305	60
Government Mental, Bethlehem	—	—	8	3	2	7	11	9	15	14	11
Government, Safad	—	18	13	3	—	62	181	9	75	184	27
Total Government and Municipal Hospitals	7	618	3274	82	101	3268	5497	1066	6549	5579	1785
TOTAL ALL HOSPITALS	53	702	5683	270	863	14170	14570	4366	19906	14840	5931
										← plus 1023* →	

*. Total patients treated. Classification by religions not available.

Maternity & Child Welfare.

51. The work of the Princess Mary's maternity wards at the Government Hospital, Jerusalem, continues to increase. There were 526 admissions compared with 452 in 1932. 499 babies were born. The number of still births was 44. Of the admissions 40 were Jews, 228 Christians and 258 Moslems. There were 5 deaths of mothers giving a maternal mortality rate of 10.2 per 1000 live births.

The Jerusalem District Maternity Service attended 99 births during the year and assisted practising midwives in 98 cases. 28 abnormal cases were referred to the Government Maternity Hospital for delivery and 13 others were booked for admission on reaching full time. There were 175 ante-natal bookings and 1881 ante-natal re-examinations during the year. There were 516 infants on the register of the Infant Welfare Centre at the end of the year. 24,089 attendances of infants were recorded during the year, and 5,620 visits were paid by nurses to the homes.

A considerable amount of social and educational work is undertaken at the sewing meetings held for mothers at the Centre. Valuable assistance is given in the social side of the work by a voluntary committee of Jerusalem ladies.

Infant Welfare Clinics are also conducted at Ramallah, Jifna, Bethlehem, Hebron and Beersheba in Jerusalem District. In Hebron considerable extension of the work has been accomplished in the new building leased by Government for the Centre. A recreation ground for children was made by means of voluntary subscriptions. Dr. Mac Innes of the St. Luke's Hospital, Hebron, has kindly consented to assist at the ante-natal clinics. There are 888 infants in the register at Hebron. Amongst other activities a clinic for pre-school children has been commenced in association with the Centre.

Valuable work continues to be performed by the Haifa Social service organization which undertakes infant welfare work assisted by Government staff.

Towards the end of the year a Superintendent of Midwifery was appointed to Haifa who will undertake the development of a district maternity and infant service. A Government Infant Welfare Centre at Acre has 506 children on the register and is well attended.

In Samaria & Galilee districts new Infant Welfare Centres were opened at Safad and Tulkarem in addition to those existing at Beisan, Jenin and Nablus. Ante natal clinics were commenced at Nablus, Jenin and Beisan under supervision of the Superintendent of Midwives whose headquarters are at Nablus.

During the year a Superintendent of Midwives was appointed also to Jaffa District to coordinate and supervise the maternity and child welfare work at the various Governmont Centres in Jaffa, Ramle, Majdal and Gaza. The Centre at Majdal was opened during the year and should perform valuable work in this small town which has had an excessively high infant mortality rate for many years.

Sstisfactory progress has been made by the new Superintendent in Jaffa in securing the cooperation of midwives and dayas. Demonstrations and classes of instruction for senior girls in Government Schools have been started with the cooperation of the Department of Education.

INFANT WELFARE — 1933.

Location and Supporting Organization	Number of Infants cared for by Centre	Attendances of Infants at Centre	Visits by Nurses to Infants at Home	Opened in
GOVERNMENT AND MUNICIPAL				
Jerusalem, Government	508	24089	5454	1925
Ramleh ,,	653	14298	2640	1926
Nablus ,,	928	9623	7424	1926
Acre ,,	506	1296	2065	1926
Gaza ,,	735	3531	3005	1927
Hebron A. ,, } and Supreme	299	6869	2937	1927
Hebron B. ,, } Moslem Council	346	5170	2790	1927
Hebron C. ,,	243	3018	453	1931
Jifna, Government and Local Community	207	3851	1795	1928
Majdal, ,,	304	9265	2437	Opened Febr., 1933
Beisan, ,,	631	2685	5253	1930
Jaffa, ,,	356	6415	2478	1930
Ramallah, Municipal	440	6666	2790	1925
Bethlehém, ,,	302	7037	2812	1926
Beersheba, ,,	75	92	509	1929
Jenin, Government	235	3555	4550	1932
Jericho, ,,	65	853	106	Opened Oct., 1933
Tulkarem ,,	55	292	199	Opened Nov., 1933
	6888	108605	49697	
HADASSAH MEDICAL ORGANIZATION				
Jerusalem, Station A.	429	3929	1825	1922
,, ,, B.	989	8486	2455	1924
,, ,, C.	1101	9225	2439	1923
,, ,, F.	646	6829	1613	1925
,, ,, G.	221	4320	1376	1928
Tel-Aviv, ,, A.	937	10643	2131	1927
,, ,, B.	290	3858	333	1927
Haifa, ,, A.	471	5951	507	1923
,, ,, B.	609	6153	849	1926
,, ,, C.	154	1906	334	1926
,, ,, D.	58	488	43	1927
Rehovoth	156	2123	337	1924
Shaarayim	136	1525	718	1926
Rishon-le-Tsiyon	138	1833	284	1928
Shevat Tsiyon	50	586	329	1928
Petah Tiqva	434	5004	757	1924
Mahne Yehuda	77	883	435	1925
Tiberias	411	4007	879	1924
Yavniel	40	310	48	1928
Safad	92	896	293	1930
Nes-Tsiyona	56	602	131	1930
Kfar Sava	125	1212	7	1931
Karkur	32	457	238	Opened Jan., 1933
	7652	81226	18361	
LOCAL COMMITTEES				
Jerusalem, American Colony Aid Association	628	8075	1106	1927
Jaffa, Committee of Ladies	425	7052	2344	1926
Haifa, Social Service and Infant Welfare Association	960	8764	6986	1925
Ain Karem, Miss Carey's Centre	169	5293	260	1931
WOMEN'S INTERNATIONAL ZIONIST ORGANIZATION				
Tel-Aviv, Carmel Street	1176	14246	2745	1923
,, Nehemya Street	670	9482	2489	1922
,, Shabazi Street	842	11364	4722	1926
Haifa	167	1029	19	Opened Nov., 1933
	5037	65305	20671	
GRAND TOTALS	19577	255136	88729	

Ophthalmic Service.

52. Considerable additional credits foreseen in the report of 1932 were granted for the expansion of the ophthalmic service already provided by the Department, in view of the high incidence of blindness revealed by the Census of 1931 in the Southern Districts of Palestine.

The lines of expansion recommended by the Consulting Ophthalmic Surgeon to the Government were similar, in general, to those adopted for some years by the Department of Health but with the addition of village clinics, conducted by trained ophthalmic tamurgis, and supervised by the Medical Officers of central stationary clinics. The three additional central clinics established were at Majdal, Hebron and Safad, and 6 subsidiary village clinics were opened in villages in the sub-districts of Majdal and of Hebron. In addition it was advised that there should be a school for the training of village girls in hygiene and in the elements of ophthalmic first aid. The establishment of this school was to be undertaken by the Order of St. John, but did not materialize.

The tamurgis village clinics which were established were most successful. Not only did the tamurgis see and give first aid to a very large number of early cases of acute conjunctivitis and of trachoma, but they also visited a selected number of villages in the vicinity and collected and treated other early cases who subsequently attended at their village clinics. The frequent visits of the Medical Officer of the Central Clinic to all the village clinics permitted him to see and prescribe treatment to be carried out by the tamurgi for all new cases, or to transfer cases to his own central clinic.

Undoubtedly, the expansion of the ophthalmic work resulted in the curtailment of several epidemics of acute conjunctivitis and in the early treatment and cure of a large number of cases that would otherwise have developed impairment of vision or blindness.

As may be seen from the attached graph (No. 1), the numbers of new cases and of attendances for eye treatment were more than doubled compared with 1932.

It is of interest to record that the number of acute conjunctivitis cases treated in the two sub-districts in which subsidiary tamurgis first aid clinics were established was 6422 and resulted in 414 corneal ulcer cases of which 73 perforating corneal ulcer cases were recommended for subsequent operation and treatment, while the number of acute conjunctivitis cases treated in Ramleh Ophthalmic Centre, without subsidiary tamurgis first aid clinics, were 1626, resulting in 270 corneal ulcer cases of which 15 were perforating corneal ulcer cases recommended for subsequent operation for prevention of glaucoma.

The utility of the subsidiary village clinics was, therefore, clearly demonstrated and credits have been requested to allow of a considerable number of additional village clinics in 1934, not only for the Majdal and Hebron sub-districts but also for Ramleh and Tulkarem where acute conjunctivitis is equally prevalent.

Ont of a total of 8151 new cases examined by the Medical Officer himself at the Majdal Central Clinic and subsidiary village clinics, there were 1050 blind in one or both eyes, (682 blind in one eye and 368 totally blind).

BLINDNESS — MAJDAL CLINIC.

Total No. of patients examined.	One eye		Both eyes.		One eye & both eyes.	
	No.	Percent	No.	Percent.	No.	Percent.
8151	682	8.36	368	4.51	1050	12.88

At this centre, acute, conjunctivitis cases constituted $40.20^{0}/_{0}$ of the total number of new cases examined during the season commencing in July when the clinic opened, the proportion of acute cases increased in August to the peak and began to fall in September. On the other hand the virulence and gravity of the cases increased, as illustrated, by the increase in the proportion of Acute Conjunctivitis witn corneal ulceration (See Graph No. 2).

At the Hebron and subsidiary village clinics, the percentage of acute conjunctivitis cases to total new cases was higher at 54.6. The percentage of ulcer cases to acute conjunctivitis cases was 6%. The attached graph (No. 3) gives an indication of the work carried out at the Central Hebron Clinic.

A Mobile Ophthalmic Unit was ordered during the year and consisted of an Albion Lorry with specially designed interior and suspended tent attachments for doctor's and nurses' clinics, and a trailer for the accommodation of two nurses. The inside of the lorry provides for storage of material for the clinic and for the office and sleeping accommodation for the doctor.

The pre-existing ophthalmic clinics at Gaza, Beersheba, Ramleh, Jaffa, Nablus, Tulkarem, and Acre continued to carry out valuable work, and the treatment of school children throughout the country was actively pursued. The School Medical Officer of Jaffa reported that "trachoma cases in Government Schools are very much improved. Most of them can be considered cured although we still continue treatment and record them in the 4th stage".

During the year, 16 special lectures were given with attendance of over 2000 of the population and of teachers.

The Ophthalmic and School Medical Officer, Ramleh, reported that "practically all school boys are suffering from trachoma and are under daily treatment carried out by teachers under the Medical Officer's supervision, yet the majority of cases are no more in the inflammatory 2nd stage and are treated with eye drops only". This Ophthalmic Medical Officer had a daily attendance at his clinic numbering 250 during the summer.

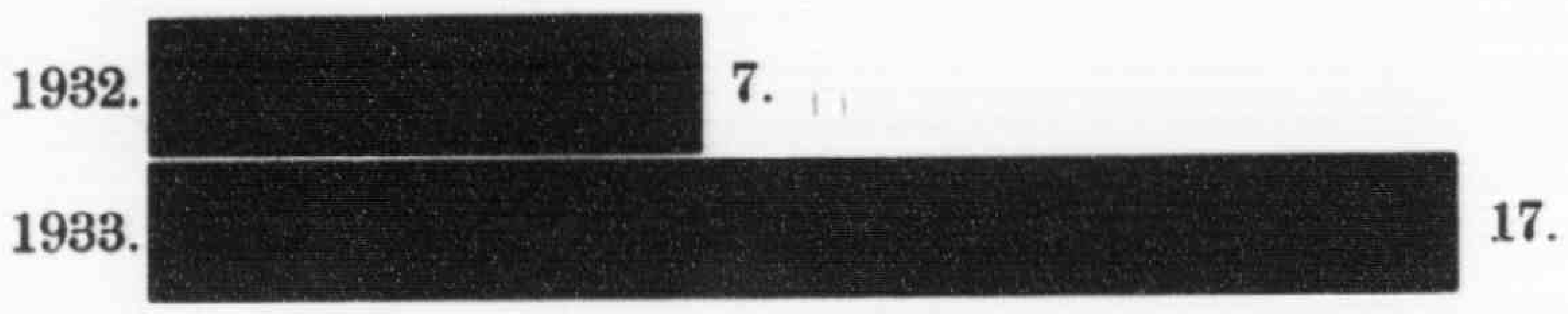
Graph No. 1

OPHTHALMIA IN PALESTINE

Blindness as enumerated at the Census of 1931.

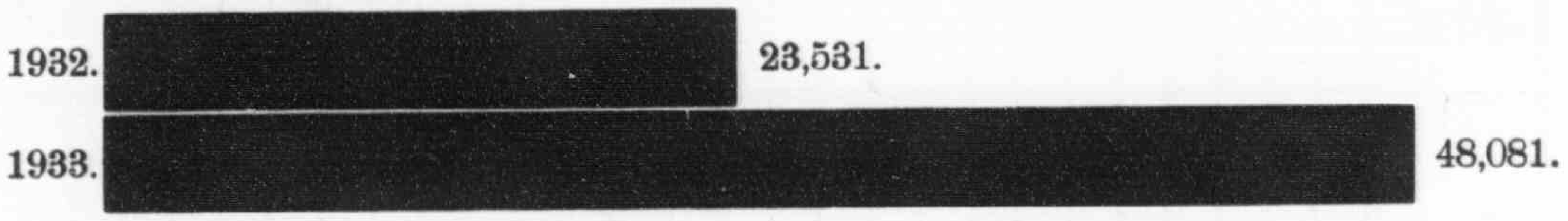
No. of persons blind in one eye . . .	19076.
No. of persons totally blind	8172.

Number of Special and Subsidiary Clinics for Ophthalmic Treatment maintained by the Department of Health.

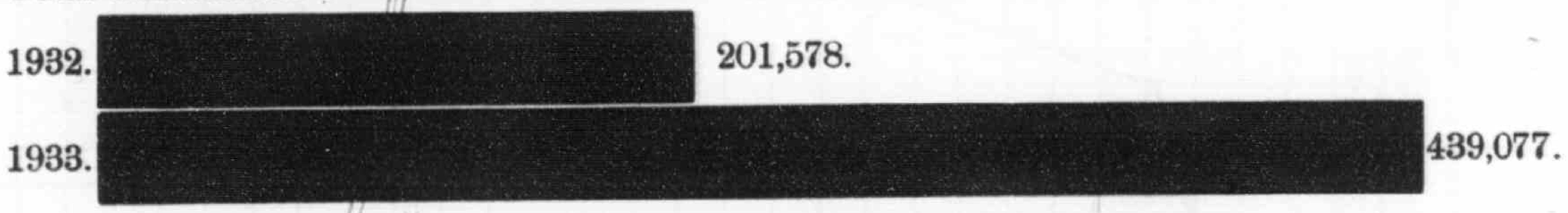


Treatment at Department of Health Ophthalmic Clinics.

No. of new cases

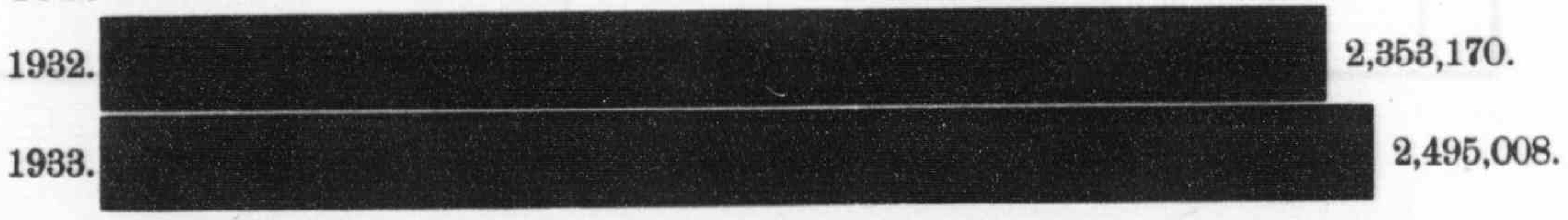


Total attendances



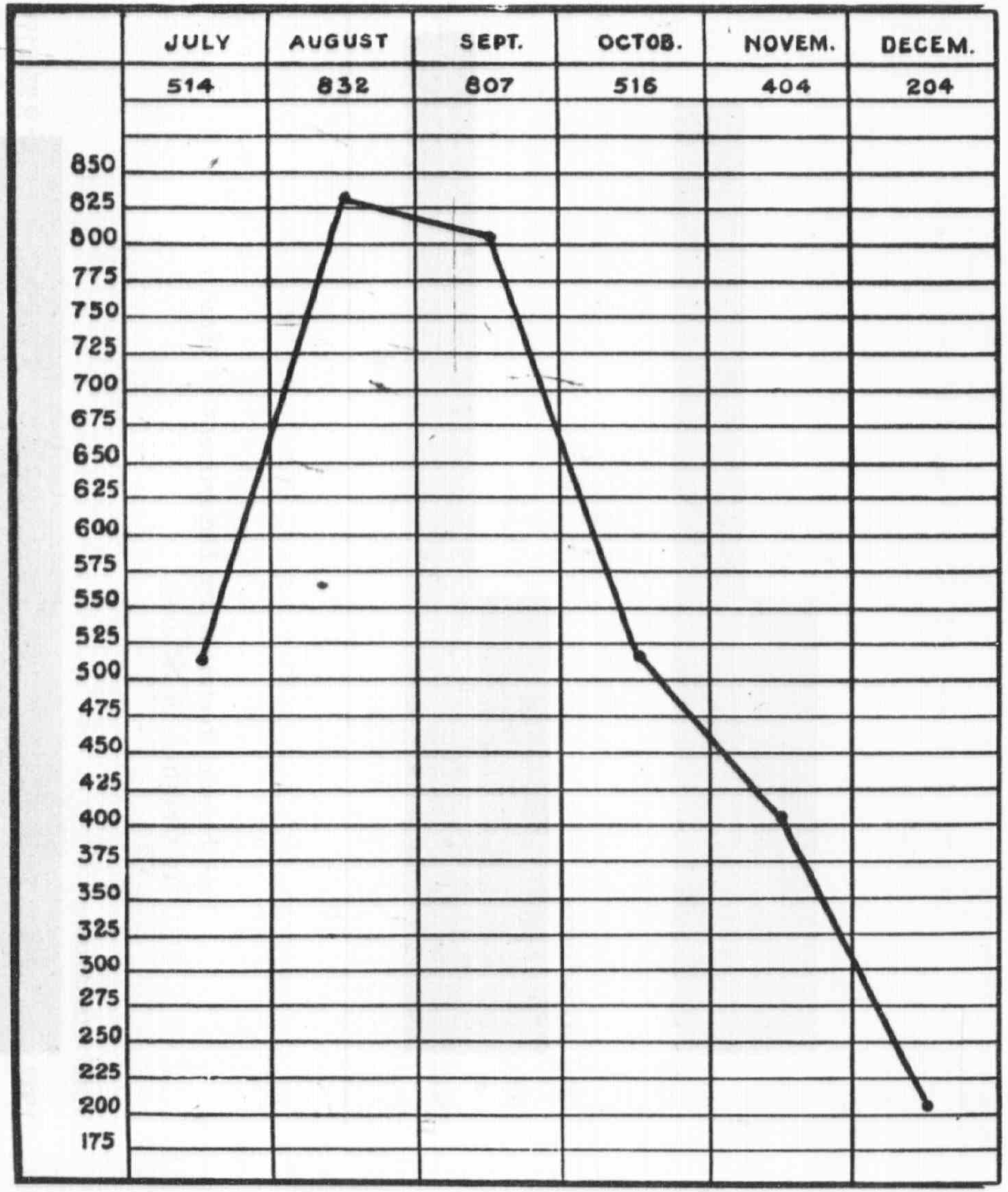
Ophthalmic treatment by Department of Health to Children in Schools.

Total attendances

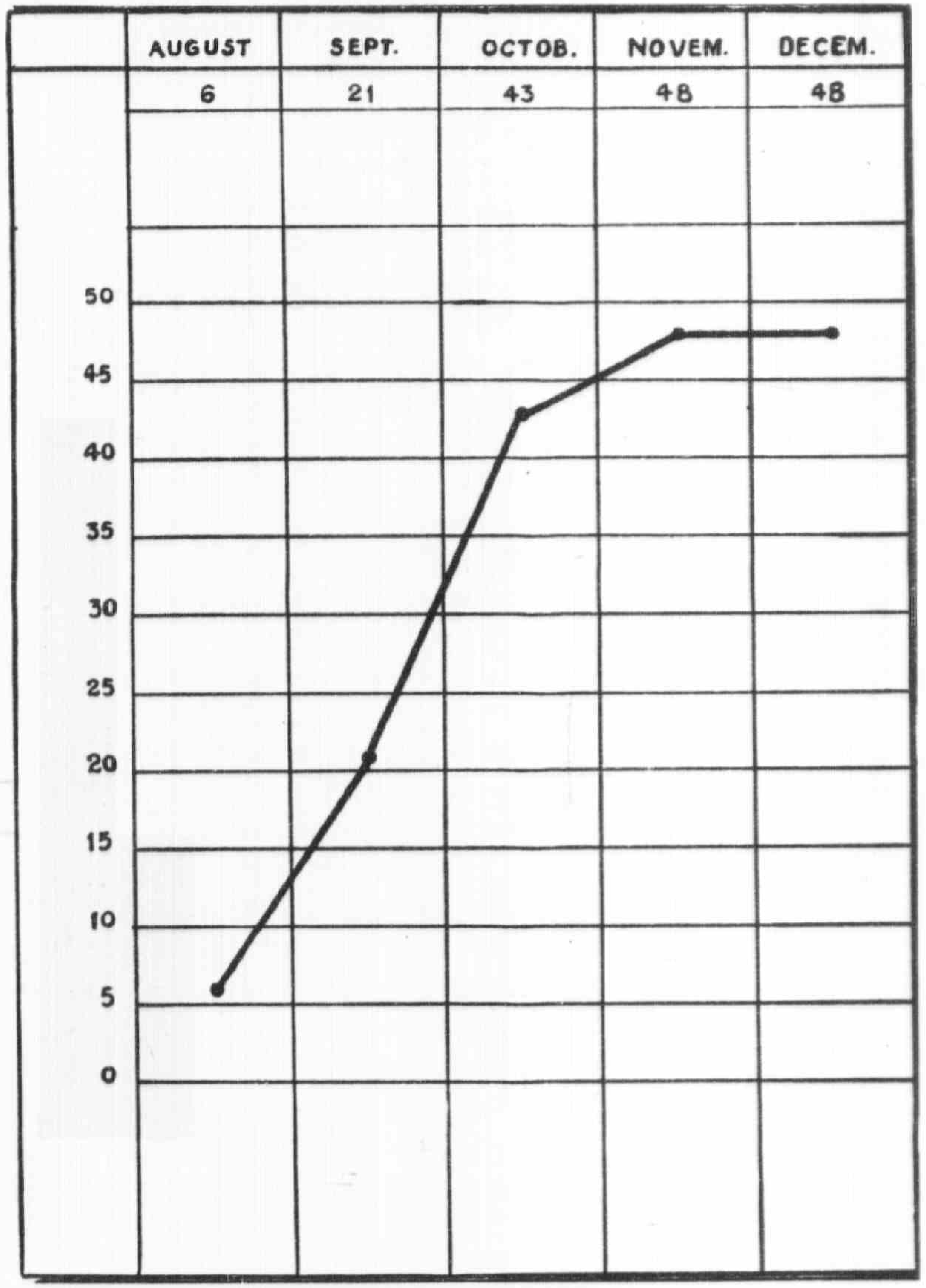


GRAPH No. 2 — MAJDAL.

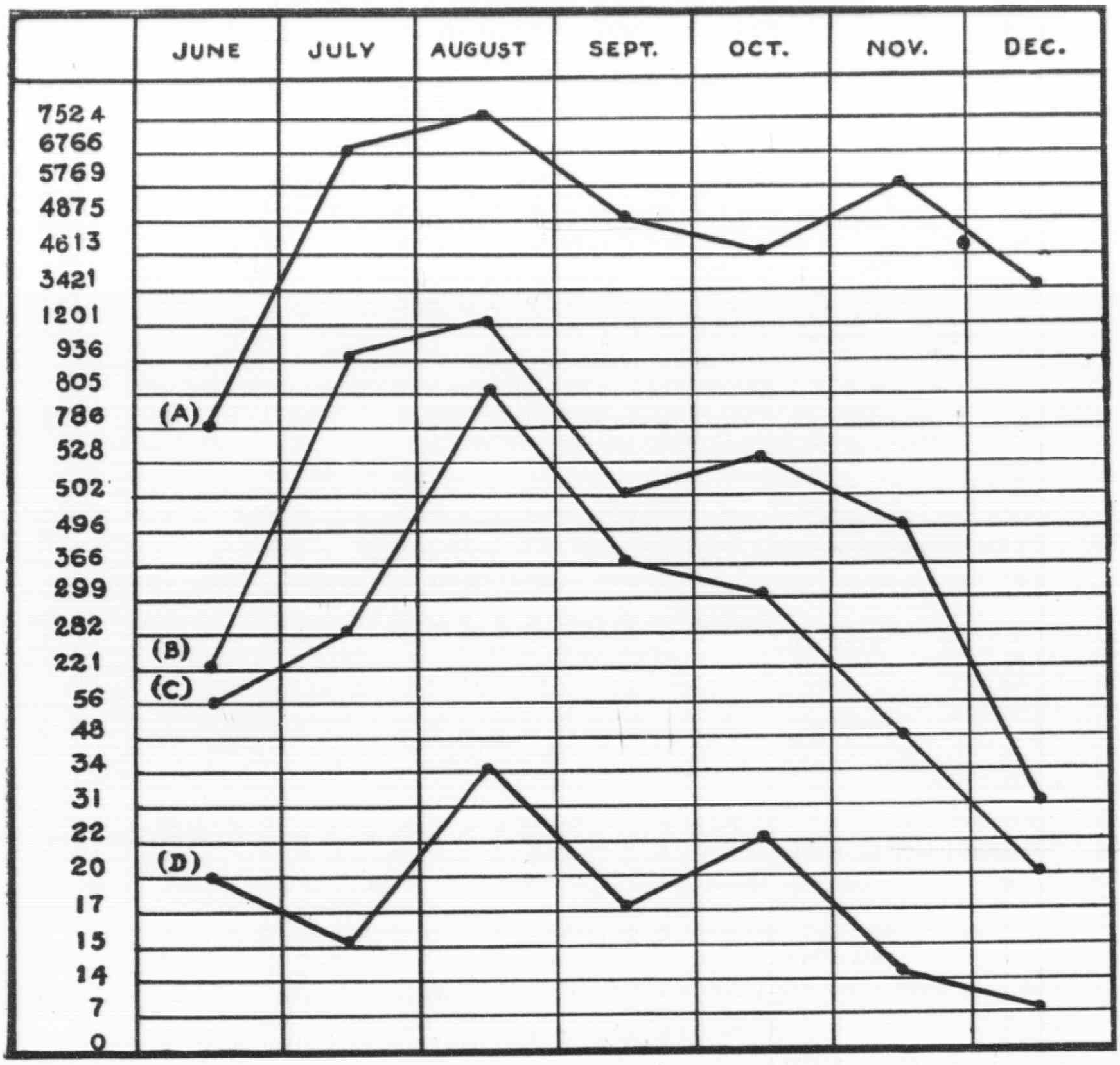
Curve showing Incidence of Acute Conjunctivitis per month.



Curve showing Virulence of Acute Conjunctivitis as illustrated by No. of Acute Conjunctivitis with Corneal Ulcer.



GRAPH No. 3.



(a) Total attendances

(b) Total number of new cases

(c) Acute Conjunctivitis

(d) Acute Conjunctivitis with ulcers

SUMMARY OF OPHTHALMIC RETURNS — 1933.

Location	Total Attendances	Number of New Patients	Number Admitted to Hospital	Operations		Classification of Conditions found in New Patients										
				Trichiasis	Other Conditions	Clear Lids	Acute Conjunctivitis	Acute Conjunctivitis with Corneal Ulceration	Trachoma	Trachoma with Corneal Ulceration	Corneal Ulcers other than above	Corneal Conditions other than Ulcers	Endophthalmia	Varia	Blind in both eyes	Blind in one eye
Beersheba	25346	534	—	--	—	176	187	29	358	24	—	31	7	53	10	21
Gaza	44048	4096	14	61	45	1067	2281	147	3029	237	93	380	388	615	20	192
Ramle	44561	6348	—	49	66	790	1626	270	5558	527	117	1038	481	2179	58	454
Acre	29693	2825	19	23	58	1239	1470	2	1586	93	46	187	51	859	4	55
Nablus	60936	4353	18	34	43	2282	2113	77	2071	853	87	262	190	559	9	117
Tulkarem	28529	4515	—	94	90	606	2460	149	3909	723	43	521	151	1808	32	184
Jaffa	43249	3984	—	54	10	850	1837	77	3134	984	34	218	97	1204	20	221
Hebron	33754	3876	—	—	—	1308	1876	129	2568	416	88	905	46	319	88	100
Majdal	48377	5159	—	—	—	605	2105	125	4554	829	31	1177	315	1643	213	442
Safad	4403	457	2	--	1	235	217	3	222	37	8	44	1	95	—	19
Masmiya	19521	2704	—	—	—	79	287	15	620	108	8	126	42	120	45	62
Esdud	12781	1789	—	—	—	49	215	8	437	117	3	137	47	122	28	51
Faluja	13137	3007	—	—	—	169	448	12	771	139	5	178	61	202	34	75
Huj	3488	866	—	—	—	135	222	6	731	237	—	141	74	242	48	50
Dawaimeh	12219	1433	—	—	—	768	964	31	665	8	—	100	—	45	—	11
Ajjour	14023	1856	—	—	—	1136	26	85	720	9	3	55	5	25	2	11
Samouh	57	41	—	—	—	25	41	—	16	—	—	—	—	—	—	—
Doura	838	164	—	—	—	100	164	—	64	—	—	—	—	—	—	—
Yatta	117	74	—	—	—	49	74	3	25	3	—	—	—	—	—	—
TOTALS	439077	48081	53	315	313	11668	18613	1168	31038	5344	566	5500	1956	10090	611	2065

Lunacy.

53. The two mental hospitals at Bethlehem served inadequately the requirements of Mental Disease in Palestine. They were able to accommodate the total of 130 beds (male 80 female 50), and were maintained at their full capacity throughout the year.

There were 142 serious cases (male 80, Female 62) awaiting admission for which no accommodation was available. In effect this meant that only the worst cases were admitted to the very few vacancies that occurred on discharge of improved cases and yet the Department was faced almost daily with demands for admission for maniacal cases that could not be restrained.

From time to time lunatics were arrested and ordered by the Courts for detention, orders which the Department was not able to carry out owing to lack of accommodation.

There is accommodation for 14 male criminal lunatics in Acre Central Prison in very suitable quarters in which the cases have improved satisfactorily and from which several have been released.

There is no female criminal lunatic section, and there is pressing need for one to be provided in connection with the proposed new leasing of a female prison.

There is also pressing need for the construction to be commenced of the new Mental Hospital, the credit for which was approved in 1929 but subsequently postponed.

Since that postponement, the Department has been compelled to lease and reconstruct another building to hold 50 male mental cases additional to the old leased building which accommodates 80. Additional accommodation is required at once and it will be necessary either to lease and reconstruct another building or proceed with the new construction, of which modified plans and a reduced estimate of cost were completed during the year.

The Ezrath Nashim private Jewish Mental Hospital, subsequent to its reorganisation of services specified by the Department of Health as a condition of the grant for additions and re-equipment in 1932 has been a much more satisfactory institution. It accommodates 56 paying cases.

Several unofficial "homes" for mental cases have been conducted by private individuals. Some of them are disgraceful places, but the present lack of accommodation for insane persons, prevents the proper application of the Lunacy Laws of the country, or compliance with orders of Court consigning lunatics charged with offences to detention in a Mental Hospital.

These cases, many of whom have homicidal or suicidal tendencies are subject to forcible restraint by their relatives, if not consigned to a "home", under conditions which are at best miserable and which frequently, through ignorance and fear, do not fall short of cruelty. If not restrained by force, they wander at large, a danger to the public, and fall into the hands of the police on charges of disturbing the peace, assault, indecent exposure or vagrancy, and are detained under unsatisfactory conditions in Police lock-ups for longer or shorter periods in hope of a vacancy in the Government Mental Hospitals. The present situation is full of dangerous possibilities and justifies the immediate prosecution of remedial measures.

The following was the situation as regards patients in institutions and awaiting admission:—

	Arabs	Jews	Total
Government Mental Hospitals	56	67	123
Ezrath Nashim Home	—	57	57
Awaiting admission	81	61	142

During the year 2 patients died in Government Hospitals and 1 in Ezrath Nashim Home.

The classification of patients admitted during the year was as follows:—

	Government Mental Hospitals	Ezrath Nashim Home
Psychasthenia	2	3
Mania, Depressive Group	2	8
Melancholia	2	5
Paranoia	2	5
Dementia Praecox	13	28
General Paralysis	3	—
Pellagrous Insanity	—	1
Drug Insanity	1	—
Other Organic Insanities	12	1

MENTAL HOSPITALS - 1933.

Hospital	Nominal Bed Strength	Admissions				Deaths	Discharges	Daily average in Hospital
		Moslems	Christians	Jews	Others			
Government Mental Hospital No. 1	80	14	11	15	—	2	16	72.8
Government Mental Hospital No. 2	51	—	—	—	—	—	7	47.0
Total	131	14	11	15	—	2	23	119.8
Ezrath Nashim Home	56	2	—	47	—	1	39	53.0
TOTALS	187	16	11	62	—	3	62	172.8

GENERAL STATISTICAL TABLES – 1933.

		Number admitted during 1933.	Daily average number during 1933	Number of Attendants				Discharged			Number of patients who died in 1933	Average stay of those		
				Resident		Non-Resident								
				Employed in attendance on the patients	Employed as servants or only partially as attendants	Employed in attendance on the patients	Employed as servants or only partially as attendants	Cured	Relieved	Not improved		Died in 1933	Discharged in 1933	Remaining at end of 1933
												Days	Days	Days
Government Mental Hospital Number 1, Bethlehem	**Male**	32	26.1	11	4	—	4	4	4	4	1	90	125	1530
	Female	8	46.7	15	4	—	7	2	2	—	1	851	611	1473
Government Mental Hospital Number 2, Bethlehem	**Male**	—	47.0	12	2	—	6	2	3	2	—	–	315	1322
	Female	—	—	—	1	—	4	—	—	—	—	—	—	—
Ezrath Nashim Home, Jerusalem	**Male**	29	17.0	3	—	2	1	3	15	3	1	170	158	971
	Female	20	36.0	5	—	6	2	3	12	3	—	—	170	1542
TOTALS		89	—	46	11	8	24	14	36	12	3	—	—	—

The classification of patients admitted during the year was as follows :—

	Government Mental Hospitals	Ezrath Nashim Home
Psychasthenia	2	3
Mania, Depressive Group	2	8
Melancholia	2	5
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	Female	—	—	—	1	—	4	—	—	—	—	—	—	—
Ezrath Nashim Home, Jerusalem	**Male**	29	17.0	3	—	2	1	3	15	3	1	170	158	971
	Female	20	36.0	5	—	6	2	3	12	3	—	—	170	1542
TOTALS		89	—	46	11	8	24	14	36	12	3	—	—	—

School Medical Service.

54. The following table gives the number of children in Government and non-Government Schools:—

	No. of Schools	No. of Boys	No. of Girls	No. of Teachers
Government Schools in Towns	54	7205	4807	446
Government Schools in Villages	245	13997	682	381
Non-Government Schools	717	36977	28275	3197

The Government School Medical Service functions primarily for the Government schools but is available for non-Government schools which apply for its services.

The medical service of the Jewish Community schools is conducted under the aegis of the Hadassah Medical Organization to whose funds a contribution for this service is made by Government.

The Department also makes periodic sanitary inspection of each registered school in the country and a schedule of sanitary improvements necessary is furnished to the Head of the School and the District Officer of Education. The plans of new schools are submitted to the Department for approval.

The Education Ordinance which provides the necessary statutory powers for sanitary supervision of all schools came into operation during the year.

The increasing demand for education has caused some overcrowding of schools.

The work of the school medical service is tabulated below:—

	Town Schools	Village Schools	Totals
LECTURES TO TEACHERS.			
Number of Hygiene Lectures by Medical Officers to Teachers	20	58	78
Number of Teachers Attending Lectures	340	216	556
MEDICAL INSPECTION OF PUPILS.			
Number of children medically examined	7741	9083	16824
,, with trachoma	3880	5454	9334
,, ,, other eye disease	1001	552	1553
,, ,, defective vision	78	127	205
,, ,, verminous head or body	146	279	425
,, ,, 4 or more teeth badly decayed	67	26	93
,, ,, enlarged spleen	8	161	169
,, ,, heart disease	22	14	36
,, ,, lung affections	27	16	43
,, ,, tuberculous disease	—	1	1
,, mentally defective	—	1	1
,, vaccinated against smallpox	13788	4233	18021
OPHTHALMIC TREATMENT.			
Number of attendances of children for treatment of trachoma etc., by teachers or school nurses.	853425	1641583	2495008

The percentage of trachoma in children medically examined was 50% in town schools and 60% in village schools, compared with 41% and 70% in 1932.

1567 children received treatment for malaria and there were 2,495,008 attendances of children for treatment of trachoma.

4 School nurses attended a refresher course of instruction in ophthalmic work at the Ophthalmic Hospital of the Order of St. John in Jerusalem.

Railway Medical Service.

55. The Railway Medical Staff remained identical with that in 1932 and was made up as follows:—

(a) The Senior Medical Officer (Railways) stationed at Haifa.

(b) Medical Officer to the Sinai Military Railways stationed at Kantara.

(c) Clerk-Dispenser, attached to the Senior Medical Officer's Office.

(d) Six Railway Medical Orderlies at Haifa, Affula, Lydda, Rafa, Kantara, and Nur-esh-Shams.

In the course of the year housing programmes for Railway Personnel were put into being at Gaza and Lydda and at the Jail Labour Camp No. 1 at Nur-esh-Shams.

The repiping of the water system at Kantara was commenced towards the end of the year and should be completed early in 1934.

The Senior Medical Officer made occasional inspections of the line and the Medical Officer of the Sinai Military Railways made regular monthly inspections to Lydda—Jaffa—Jerusalem.

The Haifa Station area considerably improved in appearance and general cleanliness since the removing of the Workshops to the Kishon site in April, 1933, and this improvement is considerably aided by the clearing up of the foreshore consequent on the making of the new reclaimed area here. The town sewer which emptied itself here and was a continual source of "nuisance" was extended to beyond the rubble dyke.

There still remain two major urgent requirements for Railway Sanitation viz:—the provision of approved water cisterns and pumps at stations on the Sinai Railways and of proper latrines at platelayers posts on the Sinai Railways.

The Railway Medical Orderlies have maintained a loyal and efficient service throughout the year under review.

The First Aid Equipment has been maintained as in previous years, and deficiencies have been replenished as soon as reported.

The Ambulance Coach stationed at Lydda was repainted and repaired and its equipment checked early in the year, and a shed was built to house it at Lydda.

New First Aid boxes have been supplied to mobile platelayers posts, as required, and the Casualty Post at the Kishon Workshops has been equipped.

The total number of Railway Personnel that underwent treatment at the clinics of Medical Officers was 9553 and of this number 3811 were "excused duty" for varying lengths of time—it is this latter figure which is to be compared with the total number given for last year 3886.

The total time "off duty" granted from the clinics amounts to 11,702 days, giving an average per man sick of 3.07 days.

The attendances for minor ailments and injuries at the Dressing Stations of Medical Orderlies total 26,476.

The new Workshops at Haifa came into use in April and there are now between 500 and 600 men employed there.

Most of these men go to and from the Workshops by special trains from Haifa and spend the whole day at the shops. Most of the men wash themselves at the lunch interval and on closing down, and the present number of latrines, urinals and wash places has been found, in practice, inadequate to cope with these rushes. The sanitary accommodation is in process of being extended.

During the winter rains the percolating pits from the two main septic tanks proved inadequate to deal with the flow of effluent, and overflowed. Further pits are now in process of being piped up to the tanks.

There has been no nuisance reported from the presence of mosquitoes.

The water supply continues to be very satisfactory. A steady supply was maintained following the exceptionally dry winter of 1932, and chemical and bacteriological tests remain satisfactory. There is as yet no chlorination plant at the Workshops and there would appear to be no necessity for installing one at present.

The Dressing Station has been exceedingly useful and has in every way justified the expense of construction. The average daily attendance of men at this Clinic for minor injuries and ailments has been 25, and these are attended to by the Railway Medical Orderly.

There have been very few serious accidents at the Workshops in the course of the year. The question of a special workshops motor ambulance was given consideration but the provision of a second ambulance at Haifa Hospital and a motor disinfecting van which may in emrgency be used for ambulance work has made it possible to meet all the requirements of the workshops adequately.

Kantara and Sinai Military Railways.

56. Since the removal of the main Workshops to Haifa, the number of Railway personnel stationed at Kantara has been reduced to about 200, but a Medical Officer has been retained there particularly in view of the fact that the station is well outside Palestinian territory and that no party would obtain satisfaction from a part-time arrangement from a local medical authority not directly responsible to the Palestine Government. The Medical Officer does monthly inspections of the line as far as Jaffa and Jerusalem, and deals with Quarantine of pilgrims and medical control of immigrants.

The water plant at Kantara has continued to give efficient service and the chlorinated water gives good results under bacteriological test. The renewal of the piping in Kantara itself is in process.

Police & Trans-Jordan Frontier Force Medical Arrangements.

57. The health of the Police and Frontier Force was satisfactory.

There were 360 admissions to hospital from the British Section of the Police with an average stay in hospital of 10 days. From the Palestine Section there were 369 admissions with an average stay of 8 days in hospital.

121 British Police were sanctioned dental treatment by Medical Boards.

The Senior Medical Officer of the Frontier Force reports that the general health of the Troops has been good during the year. There were 424 cases admitted to hospital during the year of which 417 were treated in the Frontier Force hospitals. This compares favourably with 518 admissions in 1932, 485 of which were treated in the Frontier Force Hospitals. There were 139 cases of malaria during the year of which 99 were primary and 40 secondary as compared with 16 primary and 24 secondary in 1932. The increase of cases of malaria is due to the fact that the detachments in the Jordan Valley area weer almost continuously patrolling during the months of November and December during which period 79 primary and 25 secondary cases occurred. No primary cases occurred at the Headquarters camp of the Force at Zerka where anti-malaria work in the Wady Zerka was satis- factorily maintained.

Prison Medical Service.

58. Apart from an outbreak of Influenza towards the end of the year in the Jerusalem Central Prison, the general health of the prisoners has been good. The average prison population was 2249 There were 204 admissions to Government and Municipal hospitals with an average of 13.6 days stay in hospital and 951 minor cases were hospitalized in the sick detention wards at Jerusalem and Acre Central Prisons.

There were 25 admissions to the Tuberculosis Ward in Acre Prison and 21 were discharged, mostly as cured or considerably improved. Three deaths occurred of cases who were in the last stages of the disease on admission.

5 cases were admitted to the Criminal Lunatic Section in Acre Prison and 5 were discharged, 3 of whom were cured and 2 sent to Mental Hospitals for treatment.

Owing to the closure of Acre Municipal Hospital, further accommodation was arranged in the sick detention ward at Acre Prison for the treatment of the sick. Additional sanitary improvements were effected in the Jerusalem Prison.

A new thresh Disinfector has been installed in Jerusalem Prison.

Training in First Aid

59. Progress in the training of the British and Palestine Police in First Aid continued to be satisfactory. A number of the members of the force were re-examined for the voucher of the St. John Ambulance Association. The police Inter-Unit First Aid competition for the Wauchope Cup took place on 9th October at which two medical officers of the Department and the Warden of the Ophthalmic Hospital of the Order of St. John in Jerusalem acted as judges. Medical Officers of the Department also gave instruction to employees of the Department of Health, Railway personnel and volunteers.

The results of the examinations were as follows:—

	No. of Candidates.	Certificates			Vouchers			Labels
		Passed	Failed	Not Examined	Passed	Failed	Not Examined	
British Section, Palestine Police.	110	72	5	4	14	6	8	1
British Officers, Palestine Police.	2	2	—	—	—	—	—	—
Other Personnel, Palestine Police.	106	43	7	20	11	7	18	—
Total Palestine Police.	218	117	12	24	25	13	26	1
Palestine Railways (including Sinai Military Railways).	10	6	4	—	—	—	—	—
Department of Health, Palestine.	20	13	6	—	1	—	—	—
Dead Sea Potash Co.	1	1	—	—	—	—	—	—
TOTALS	249	137	22	24	26	13	26	1

Medical Commission.

60. The Central Medical Board carried out 76 examinations during 1933 of which 45 were to determine the physical fitness for service, 11 in connection with applications for sick leave, 9 for extensions of sick leave 5 for invaliding from the service, 6 for special examination and estimation of disability.

The 18 District Medical Boards carried out 3126 medical examinations during the year as compared with 2947 in 1932. In addition to 132 police recruits examined by Medical Boards, there were 500 candidates for the police force examined by Medical Officers of whom 152 were rejected.

Medico-Legal Examinations and Reports.

61. There was little change in the amount of work done by medical officers for medico-legal purposes.

3931 investigations were made as compared with 3823 in 1932. Evidence was given in Courts on 886 occasions as compared with 1011 in 1932 and 343 post mortem examinations were performed and reports submitted as compared with 384 in 1932.

EXAMINATIONS BY MEDICAL BOARDS — 1933.

	Examinations as to fitness for Service												
	Government Officials and Employees other than Police				Police							Special Miscellaneous examinations	TOTALS
					Men Serving				Recruits				
	Fit for permanent service	Fit for temporary service only	Unfit for any service	Total	Fit for permanent service	Fit for temporary service only	Unfit for any service	Total	Fit for service	Unfit for service	Total		
Central Medical Boards	16	1	6	23	1	—	6	7	1	—	1	45	76
Jerusalem District Medical Boards	238	10	16	264	149	—	25	174	—	—	—	686	1124
Jaffa District Medical Boards	245	—	35	280	83	—	8	91	—	—	—	391	762
Haifa District Medical Boards	332	3	82	417	149	—	20	169	—	—	—	248	834
Samaria District Medical Boards	131	—	10	141	95	—	17	112	—	—	—	21	274
TOTALS	962	14	149	1125	477	—	76	553	1	—	1	1391	3070

The Practice of Medicine, Pharmacy, Dentistry and Midwifery.

62. At the end of the year, there were 1023 doctors, 295 dentists, 220 pharmacists and 368 midwives licensed to practise in Palestine.

During the year, the new licenses granted were 384 to doctors, 29 to pharmacists, 83 to dentists and 35 to midwives. In addition, 1193 unqualified dayahs were practising midwifery, mostly in villages.

During the twelve months under review, the numbers of persons licensed to practise medicine increased by 50% and those licensed to practise dentistry by 37%.

It was necessary on account of this very great increase of persons licensed to practise, to republish the official list of persons licensed. Opportunity was taken to alter the form of this publication to one which it was thought would be of greater utility to the public.

Six new pharmacies were opened during the year and two were closed. The total number conducting business at the end of the year was 120.

There are in addition to the regular pharmacies, 25 pharmacies attached to town clinics and hospitals each of which is conducted by a licensed pharmacist; 25 Government Dispensaries, 7 of which are conducted by licensed pharmacists; over 120 village clinics to which small dispensaries are attached conducted by the Kupat Cholim, the Rural Sick Benefit Fund, different charitable and religious institutions and private doctors in each of which the dispensing is done by the doctor in charge; 30 wholesale dealers in drugs; 80 establishments licensed to deal in poisons; over 120 dealers in simple drugs and 20 manufacturing chemists.

A satisfactory standard of equipment, arrangement and maintenance of these establishments has been attained and compares very favourably with European countries.

Continuous inspection was carried out by a qualified inspector who combines these duties with the supervising of the legal trade in dangerous drugs as required under the International Opium Convention.

The practising pharmacist is confronted with many difficulties, due partly to the excessive competition resulting from too great a number of pharmacies on the one hand and the superfluous number of charitable and Government institutions on the other, and partly to expansion of trade in imported proprietory and patent medicines which is greatly diminishing the amount of dispensing.

An examination for Assistant Pharmacists under Public Health (Pharmacy) Ordinance 1928, was held in March. Two local pharmacists assisted the Department by acting as examiners. Out of 6 candidates who presented themselves for the examination 2 passed.

International Opium Convention.

63. 51 certificates were granted for the importation of Dangerous Drugs. The exporting countries were England, Germany, Switzerland, France and Italy. Imports were as follows:—

Opium Medicinal	2390	Grm.
Opium in the form of preparations	4454	„
Morphine in the form of Salts and preparations	735	„
Heroin, its Salts and preparations	81	„
Cocaine in the form of Salts and preparations	3817	„
Cocaine in the form of preparations containing more than 0.1 per cent of Cocaine made direct from the leaf	45	„
Pantopon	68	„
Dicodide and preparations	35	„
Eucodal and preparations	103	„
Cannabis Indica in the form of galenical preparations	12	„

In December all licensed pharmacists rendered a return of the amounts of dangerous drugs they had dealt in during the year and gave their estimated requirements for the ensuing year.

Seven reports were forwarded to the Permanent Central Opium Board as follows:—

Four reports showing quarterly imports of dangerous drugs, one report giving the estimated annual requirements, one report of quantities of dangerous drugs held by wholesale dealers in drugs and one general report.

During the year a revised draft of the Dangerous Drugs Ordinance 1925-1932 was under preparation to bring the local legislation into conformity with the recommendations of the International Convention for limiting the Manufacture and Regulating the Distribution of Narcotic Drugs which was signed at Geneva on the 13th July 1931.

NUMBER OF DOCTORS, PHARMACISTS, DENTISTS AND MIDWIVES PRACTISING IN — 1933.

				Nationality																																				
			Sex	American	Armenian	Austrian	Australian	British	Bulgarian	Canadian	Chinese	Czecho-Slovak	Dutch	Egyptian	Estonian	French	German	Greek	Hijaz	Hungarian	Italian	Lettish	Lithuanian	New-Zealand	Palestinian	Persian	Polish	Rumanian	Russian	Spanish	Swedish	Swiss	Syrian	Trans-Jordan	Turkish	Ukrainian	Yugo-Slav	Undefined	Totals	Grand Totals
Medicine	Licences Granted	Prior to 1933	M	11	8	15	—	33	4	1	—	7	—	3	2	4	31	6	1	3	4	3	11	1	150	2	43	8	72	1	1	1	46	2	14	5	1	—	494	
			F	3	—	1	—	7	2	—	1	2	—	—	1	—	10	—	—	1	—	1	—	—	23	—	19	5	69	—	—	—	—	—	—	—	—	—	145	
		During 1933	M	1	—	3	1	3	—	—	—	3	—	—	1	—	230	3	—	3	—	7	5	—	15	—	21	5	7	—	—	—	2	1	—	—	—	9	320	
			F	—	—	—	—	2	—	—	—	—	—	—	—	—	43	—	—	—	—	—	1	—	2	—	9	1	4	—	—		—	—	—	—	—	2	64	1023
Pharmacy	Licences Granted	Prior to 1933	M	4	10	3	1	1	2	1	—	2	—	1	—	1	5	3	—	—	—	1	2	—	62	—	9	3	19	—	—	—	22	—	5	4	—	—	161	
			F	—	—	1	—	3	—	—	—	—	1	—	—	—	—	—	—	—	—	1	1	—	11	—	4	2	6	—	—	—	—	—	—	—	—	—	30	
		During 1933	M	1	—	—	—	—	1	—	—	—	—	—	—	1	4	—	—	—	—	—	—	—	9	—	2	2	—	—	—	—	1	—	—	—	—	—	21	
			F	1	—	—	—	—	1	—	—	—	-	—	—	—	—	—	—	—	—	—	—	—	—	—	2	3	1	—	—	—	—	—	—	—	—	—	8	220
Dentistry	Licences Granted	Prior to 1933	M	8	3	—	—	—	—	—	—	—	—	3	1	—	3	—	—	1	—	—	2	—	22	—	5	1	14	—	—	1	1	—	2	—	—	—	67	
			F	3	—	—	—	—	—	—	1	—	—	—	3	—	—	—	—	—	—	2	8	—	27	—	40	7	51	—	—	—	—	—	—	3	—	—	145	
		During 1933	M	4	—	—	—	1	—	—	—	—	—	—	—	—	43	1	—	—	—	1	2	—	1	—	2	—	—	—	—	—	—	—	—	—	—	2	57	
			F	1	—	—	—	—	—	—	—	—	—	—	2	—	9	—	—	—	—	1	2	—	4	—	6	—	1	—	—	—	—	—	—	—	—	—	26	295
Midwifery	Licences Granted	Prior to 1933	F	4	6	3	—	19	—	—	—	1	—	2	—	2	10	1	—	—	—	—	4	—	177	1	26	3	46	—	1	1	14	1	5	6	—	—	333	
		During 1933	F	—	—	—	—	—	—	—	—	—	—	—	—	—	1	—	—	—	—	—	1	—	22	1	9	—	—	—	—	—	—	1	—	—	—	—	35	368

SECTION IV.

Sanitary Administration

Rainfall and Water Supply.

64. The rainfall during the winter season of 1932-33 was 280 mms. (average of 37 stations). This exceptionally small precipitation following upon three seasons in which the rainfall had been considerably below the average of the past 20 years resulted in a serious shortage of water for domestic use throughout most of the hill districts of the country.

The situation in Jerusalem town was extremely grave. On the termination of the rainy season there was a negligible reserve of water in the impounding reservoirs at Solomon's Pools and Arrub and no discharge from the springs which serve these reservoirs. The town with its greatly increased population was for practical purposes entirely dependent on the Springs of the Ain Farah-Fawar-Kelt Wady. Of these Ain Farah maintained a steady supply of 230,000 gallons a day. Ain Fawar failed early in the summer and Ain Kelt the normal discharge from which is about 2,000,000 gallous a day fell to one fourth of that quantity. The supply from these sources was limited by the capacity of the pumping stations and as the scheme was only designed originally as a temporary expedient to supplement other sources there was no reserve of engine power or standby plants. The possibility of a break down necessitated further expenditure on the installation of duplicate engines and pumping plant which was completed by August.

The average daily supply was maintained at about 450,000 gallons which enabled a small amount to be delivered to the storage reservoirs at Solomon's Pools.

In connection with the new water supply scheme for Jerusalem a careful series of observations was made of the various springs at Ras El Ain and from the data obtained recommendations were made upon those best suited in quality and composition for domestic and general purposes. From the springs selected only part of the total supply will require softening. In consultation with Public Works Department and the Chief Engineer of the Crown Agents decision was made upon the type of softening plant. Plant will also be installed for treatment by the chloramine process should results of periodical examinations indicate at any time that this is required when the supply is in actual use.

Work on the Nablus Water Supply Scheme was commenced during the summer and by the end of the year the mains and service reservoirs had been completed.

The Municipality of Jaffa has prepared a scheme for a new boring in the Ajami or Southern part of the town which will enable the extension of the main supply to this area.

Majdal (Gaza sub-district) has made a new bore south of the town. A reservoir is under construction and pumping plant is to be purchased in the coming year.

The service mains of the new supply in Gaza have been completed and a new high level service reservoir will be constructed next year.

Difficulties were experienced with the Tiberias supply on account of the exceptionally low level to which the Lake had fallen, which affected the intake.

Further extension of the water supply in Tel Aviv was necessitated by the rapid extension of the town. A new bore was made in the northern quarter. Automatic chlorinating plant was installed at three of the existing well bores of the town supply.

Investigations were continued to discover an alternative source to the Kabri Springs for Haifa town main supply. Two test wells were sunk by Government east of Acre and water found. Though a fair supply of water has already been obtained it is doubtful whether the source will meet the growing requirements of Haifa. For the supply of drinking water to the port area temporary arrangements were made to obtain and to transport water from the Railway Workshops bore in Haifa Bay.

Nazareth town suffered from extreme shortage during the year but the Municipality was successful in locating a Roman conduit east of Reineh which enabled them to supplement their existing supply obtained from the Spring in this locality.

Technical questions arising in connection with the various schemes referred to were examined by the Department and recommendations made.

The plans and proposals of new schemes or extensions of main supplies carried out or projected by Municipalities were reviewed and reported on by the Department.

In order to meet the critical situation which hill villages would face during the summer the Government appointed a Village Water Supply Committee in Spring and provided £P.7000 for the investigation and improvement of existing sources where acute shortage was a matter of serious emergency. Approximately 90 sources were improved at a cost of £P. 5700. In most cases the cooperation of villagers themselves was obtained by the provision of free labour and by undertakings to refund over a period of time determined according to circumstances, 50% of the expenditure involved.

Officers of the Department in the various districts of the country carried out a great deal of work in connection with the local sub-committees acting under Emergency Village Water Supply Committee, and advised on the requirements or urgency of works executed.

The surveys of village supplies carried out in previous years by the Department provided a mass of preliminary data which was of considerable value.

Sanitary Engineering.

65. The work of this section was rendered difficult by the unfortunate death of the Sanitary Engineer early in the year and the absence on relieving duties for the greatest part of the year of the administrative officer in charge of the section.

A new appointment to the post of Sanitary Engineer was made towards the end of the summer.

The year was one of considerable activity on account of the new developments approved and the unusual expansion of building throughout the country.

Sewerage Schemes & Drainage Disposals.

66. **Jerusalem.** An officer of the Department served on the Advisory Drainage Committee of the Jerusalem Municipality which dealt with matters arising in connection with the main sewer laid from the Jaffa Road to the new disposal area south east of Silwan.

The general programme of development of the general sewer scheme was considered in consultation with the Department of Public works, the Chief Engineer of the Crown Agents and the Municipal Engineer. The requirements and type of the two main disposal plants of the Eastern and Western Sections of the scheme were decided upon.

Extension of branch sewer lines amounting to 970 metres were laid during the year.

Jaffa. The preliminary plans for improvement of the Manshieh outfall to permit further extension of the area drained and the inclusion of the Merkaz Mishari quarter of Tel Aviv were approved. The cost of this scheme is being shared by the Tel Aviv Council.

In addition to extension of sewer lines in various parts of Manshieh a scheme was reviewed for the construction of the main sewer in the Ajami quarter with an outfall approximately as advised by the Consulting Engineer.

Tel Aviv. The Nevi Zedek and Mahne Yehuda scheme was completed dealing with a built up area of approximately 34 dunoms.

The Council's plans for the connection of the Merkaz Mishari quarter and the scheme for participation in the cost in the Salameh sewer and the extension of the Manshieh outfall were submitted and approved.

Haifa. The temporary sea outfall installed during the course of the Harbour construction continues to function. The views of the Department regarding the permanent outfall and disposal were given to the Department of Public Works which was engaged during the year in determining the final lines for the main interceptors. The rapid development of this town has necessitated a revision of the proposals made by the Consulting Engineer some years ago. The growth of the town has made necessary considerable expansion of branch sewers. Plans for extension of branch sewer lines of Hadar Hacarmel quarter, Stanton, Hayimia, Tel Hay, Bezalel and Allenby Streets were reviewed, and of construction of main sewers in Kishleh quarter, Nazareth road and Wadi Nisnas. Approximately 7,800 metres of underground drainage lines were installed during the year.

Tiberias An outline scheme of sewerage was prepared for the Municipality for guidance in the preparation of detailed plans.

Public Establishments.

67. The plans of approximately 100 establishments of various kinds were reviewed in connection with the regulation of Trades and Industries. The lines on which these plans required revision to obtain satisfactory standards of sanitation, general hygiene or in relation to technical processes were indicated. Amongst the most important were, a first class hotel at El Hammeh Thermal Establishment including general lay out and water supply of the area, typical designs for public latrines, wash houses, and other sanitary installations in connection with the third class camping area, cigarette factory, fruit juice and cordial factory, fruit canning establishment, dyeing factory, textile factory, sweets factory, galvanizing factory, tannery, alcohol factory, aerated water factories, ice factories, cold storage establishments, dairies and cow sheds, public animal markets, cinemas, public baths and slaughter houses. Amongst other projected institutions whose plans were reviewed were several public and private schools, police training school, rural police posts standard types, port offices, port disinfecting station, extension of Government Hospital, extension of Afuleh Hospital, Tel Aviv Municipality Hospital extension, maternity wards and midwives training school Nablus.

Outline schemes were prepared of an infectious hospital for Jerusalem, conversion of the lazaret Jaffa into an infectious disease hospital, permanent buildings of quarantine lazaret Haifa.

Municipal Sanitary Services.

68. Sewerage, drainage and water supply developments in Municipal areas have been referred to in a preceding section. The phenomenal building developments in the principal towns have resulted in a considerable increase of the work of Building Permit Committees on which representatives of the Department serve. In Jerusalem nearly 800 plans of new buildings were dealt with. In Haifa nearly 400 new buildings were registered for control. In Tel Aviv some 2400 plans were dealt with by the office of the Department in connection with new buildings or alterations of existing premises.

The sanitary services of the towns have in general been adequately maintained though in the principal towns scavenging services have been severely strained in the effort to keep pace with new and extending areas of development. Refuse disposal is not yet dealt with in certain large towns in a satisfactory manner. The provision of a suitable destructor plant is still under consideration by the councils of Tel Aviv and Jaffa. "Controlled tipping" is adopted in Jaffa area but mass dumping with its consequent nuisance still remains an unfortunate feature of the Tel Aviv refuse disposal system.

In Jerusalem a second unit was added to the destructor plant and brought into use during the year.

In Haifa town domestic refuse is dealt with in a standard two celled top feed destructor with forced draught. Street sweepings are disposed of by "controlled tipping". The development of the town indicates that the destructor plant should be enlarged by the addition of one or two more units and a drying platform. In the smaller municipalities house refuse is burnt in locally constructed incinerators. Sanitary maintenance of disposal areas in several cases does not receive the attention it requires.

The new slaughter house in Jerusalem was opened in the month of October and provision has been made for improvement of the grounds by concrete roads etc. in the new financial year. The extension of Tel Aviv slaughter house is already under consideration though the existing premises have only been in use for a few years. The construction of a new and modern abbatoir in Haifa was for a time delayed on account of difficulties in regard to the site. This matter was however settled definitely during the year. The Local Council of Petah Tikvah have prepared plans for an abbatoir which will be constructed next year.

All Municipalities maintain gangs of antimalarial workers whose operations are directed and controlled by Medical Officers of the Department. It is most important that in certain of the main towns which are rapidly exteading, the necessity for providing additional staff to enable this important service to cope with additional work involved should be realised by Municipal Councils.

Village Sanitation.

69. The principal development in village sanitation was the extension of the programme of installation of village latrines.

During the year ~~1907~~ 2254 bored hole latrines were installed in villages of Jaffa and Gaza districts. In hill villages where rock excavation has frequently to be undertaken when installing a pit latrine, the problem is more difficult but trial was made in five selected villages and during the year 546 pit latrines with precast concrete tops were constructed for village householders. In both the bored hole latrines and in the hill village latrine the villager refunds the sum of 150 mils which represents the cost of materials used in construction. The villagers themselves add the superstructure required to provide privacy. In general the maintenance of these latrines is satisfactory though villages differ greatly in this respect.

Scavenging in villages is slowly improving. An increasing number of villages now provide scavengers for keeping the roads and by-ways clean. The provision of sanitary workers of this type is more easily arranged where Local Councils are formed. The village manure and refuse heap is however becoming a less common feature of the village landscape due to a growing appreciation of its value for agricultural purposes. In some areas a trade has developed in the sale of manure to orange growers in Jaffa District.

In cooperation with the Department of Education propaganda work in village welfare and hygiene is developing. It is hoped in the course of next year to concentrate on selected villages with a view to making them model villages. During the summer a party of students from Syria spent part of the summer vocation in a village of Palestine gaining experience from the local officers in village welfare work.

Regulation of Trades and Industries.

70. 14,596 establishments were licensed during the year after compliance with the sanitary and other requirements prescribed under the Regulations of Trades and Industries Ordinance. While there is a small decrease in the number of establishments under control there has been an increase in the more technical class of industrial undertaking. The number of industries employing power driven machinery increased by 25.

An alteration was made in the administrative side of the licensing system by the abolishment of license renewal forms. New licenses are now issued each year. The change simplifies the registration and record of licensed premises and enables better audit control.

The following additions were made to the schedule of industries coming within the scope of the Ordinance.

(1) Factories for the preparation of patent flours, baking powders, patent cereal foods and invalid and infant food.

(2) Factories for the manufacture of dried and condensed milks.

(3) Factories for the manufacture of toilet requisites.

In addition to the above at the request of the Police and Municipal Authorities the control of Hawkers previously restricted to those dealing in articles of food or drink was extended to include Hawkers of all classes.

The draft Public Health (Regulations as to Food) Ordinance was submitted to the Secretary of State after further and final revision.

The plans of the premises for industries of important character only are referred to Headquarters for special technical examination, and after suitable revision are returned to districts for approval of issue of licenses. Amongst those dealt with during the year were the following:—

Factories for the preparation or manufacture of ropes and belts, textiles, sweets and chocolate, alcohol and carbon dioxide, ice, aerated waters, fruit juice essences, soap, tobacco, margarine, also a dyeworks, a galvanising factory and a fruit canning establishment.

SECTION V.

Relief.

General.

71. A serious condition of destitution was threatening towards the end of the year amongst Arab villagers in a number of the eastern hill villages.

The situation was the inevitable result of failure of crops, general shortage of water for man and beast, and absence on account of drought of fodder for stock animals.

The Department was at the end of the year making preparations for the issue of food as an emergency relief measure in the worst afflicted areas pending the organisation of various forms of relief works to give employment to these destitute villagers.

NUMBER OF TRADES AND INDUSTRIES IN PALESTINE LICENSED DURING THE YEAR — 1933.

Nature of Trade or Industry and Classification in the Schedule under the Trades and Industries Ordinance, 1927.	SUB-DISTRICT OF																		TOTALS
	Jerusalem	Ramallah	Bethlehem	Hebron	Beersheba	Jaffa	Tel-Aviv	Ramle	Majdal	Gaza	Haifa	Acre	Nazareth	Nablus	Jenin	Tulkarem	Tiberias	Safad	
Class I.A.																			
1. Bakeries, public ovens, bread and bakers shops	95	8	3	33	1	76	89	21	14	18	58	14	16	25	3	10	45	17	546
2. Butchers shops and tripe shops	138	17	29	20	3	47	128	11	21	16	74	12	32	21	2	13	31	17	632
3. Cold storage establishments	1	—	—	—	—	—	3	—	—	—	—	—	—	—	—	—	—	—	3
4. Confectionery, sweetmeat, jam and preserved fruit establishments (including pastry shops).	10	—	2	2	3	20	24	5	—	8	9	15	2	28	—	3	2	5	138
5. Fish frying shops	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
6. Fish shops	14	—	—	—	—	2	24	1	—	1	6	2	1	1	—	—	8	2	62
7. Flour and corn mills	20	14	7	14	6	7	5	19	8	5	10	9	7	2	17	—	6	4	160
8. Grain and cereal shops	17	4	11	25	19	41	40	20	12	54	40	9	9	26	—	16	15	—	358
9. Groceries, flour stores and shops for the sale of vegetables and fruit	931	169	106	184	79	589	671	199	136	236	344	167	131	246	27	123	265	135	4738
10. Ice cream manufacturers, shops and stores	5	—	—	1	—	2	10	—	—	—	2	—	—	1	—	1	—	1	23
11. Macaroni factories	—	—	—	—	—	—	1	—	—	—	1	—	—	—	—	—	—	—	2
12. Milk, butter, cheese and dairy produce shops	5	—	—	—	—	6	50	—	—	2	18	—	2	16	—	—	7	2	108
13. Oil mills and oil stores (other than mineral oil stores)	8	67	3	10	—	3	10	24	—	6	12	16	2	5	—	—	4	—	170
14. Pickle manufactories	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
15. Poultry shops	48	—	—	—	—	1	23	—	—	—	—	—	—	—	—	—	1	1	76
16. Preserved fish depots	—	—	—	—	—	4	1	—	—	—	—	—	—	—	—	—	1	—	6
17. Public kitchens	2	—	—	—	—	—	—	—	—	14	—	35	—	—	—	—	—	—	51
18. Aerated water factories	7	—	—	—	—	3	11	1	—	—	2	1	2	—	—	—	1	1	29
19. Artificial butter factories	—	—	—	—	—	—	4	—	—	—	—	—	—	—	—	—	—	—	4
20. Factories for canning, curing or preserving meat or fish (including sausage factories)	2	—	—	—	—	2	3	—	—	—	5	—	—	—	—	—	—	—	12
21. Ice factories and ice stores	9	—	—	—	—	6	10	—	—	—	10	2	2	1	—	—	4	—	44
22. Sugar refineries and factories, molasses factories	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
23. Public markets (excluding horse and cattle markets)	1	—	—	—	—	2	1	—	—	—	—	—	2	—	—	—	1	—	7
24. Establishments for the sale of non alcohoic beverages	25	—	—	—	—	18	57	1	—	—	34	—	—	—	—	—	10	—	145
25. Manufactories of water ice (Barrad)	—	—	1	—	—	2	—	—	1	—	—	—	—	—	—	—	4	—	8
26. Enterprises for the supply of water by pipe to the public for domestic or industrial purposes	—	—	—	—	—	—	—	—	—	—	6	—	—	—	—	—	—	—	6
27. Carriers and Transporters of meat, fish, ice and milk	—	—	—	4	—	—	9	—	—	—	—	—	—	—	—	—	4	2	19
Class II. A.																			
1. Hotels, places of public entertainment and all establishments licensed under the Intoxicating Liquors and Public Entertainments Ordinance 1922 (includes cinemas and public halls)	165	2	17	2	2	71	87	15	—	7	230	13	38	3	—	3	37	12	704

NUMBER OF TRADES AND INDUSTRIES IN PALESTINE LICENSED DURING THE YEAR — 1933. *(Continued)*

Nature of Trade or Industry and Classification in the Schedule nnder the Trades and Industries Ordinance, 1927.	SUB-DISTRICT OF																		TOTALS
	Jerusalem	Ramallah	Bethlehem	Hebron	Beersheba	Jaffa	Tel-Aviv	Ramle	Majdal	Gaza	Haifa	Acre	Nazareth	Nablus	Jenin	Tulkarem	Tiberias	Safad	
2. Alcohol depots	—	1	—	—	—	4	20	—	—	—	—	—	—	—	—	—	—	—	25
3. Cafes and restaurants not licensed under the Intoxicating Liquors and Public Entertainments Ordinance 1922	145	11	11	10	12	189	122	37	13	8	108	26	14	38	9	20	35	9	817
4. Lodging houses and boarding houses where intoxicating liquors and not sold	32	—	—	3	—	25	34	3	1	3	48	—	3	10	2	2	29	11	206
5. Public baths, bathing places and wash houses	12	—	—	4	—	3	3	—	—	3	4	2	—	5	—	—	3	2	41
6. Breweries, wine presses and factories of alcohol, vinegar or any fermented or spiritous liquor	5	1	1	—	—	2	1	—	—	—	3	—	—	—	—	—	—	1	14
Class II. B.																			
1. Establishments for the retail sale of petroleum, paraffin and mineral oils	26	—	5	4	2	22	265	3	4	12	24	8	12	22	4	4	20	26	463
2. Establishments employing power driven machinery	99	—	3	1	—	74	138	11	—	1	89	2	—	10	—	15	16	—	459
3. Establishments employing steam under pressure	2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2
4. Garages for motor vehicles (public garages and garages for public vehicles)	32	8	3	14	—	3	4	—	1	4	14	3	10	5	2	–	13	2	118
5. Asphalt and bitumen factories	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
6. Factories of explosives or of articles containing explosives	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
7. Match factories and store houses for matches	—	—	—	—	—	—	1	—	—	—	—	1	—	—	—	—	—	—	2
8. Stores for explosives (other than ammunition)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
9. Factories for the manufacture of mineral acids and other chemical products and stores for such products	—	—	—	1	—	—	5	—	—	—	—	—	—	—	—	—	—	—	6
10. Petroleum, paraffin and mineral oil stores	21	2	—	3	2	1	13	1	—	—	21	—	3	2	3	—	3	1	76
11. Premises for the repair or sale of firearms or ammunition	4	1	3	—	—	2	—	—	—	2	—	—	2	1	—	2	4	—	21
12. Warehouses for firearms and ammunition	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
13. Shops for the sale of explosives	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
14. Hawkers	512	42	36	7	9	242	121	45	16	40	494	60	322	17	54	175	241	35	2468
Class III.																			
1. Cattle and horse markets	—	—	—	—	—	—	—	—	—	—	—	—	2	—	—	—	—	—	2
2. Cattle sheds (includes sheds for oxen, sheep and goats)	60	23	45	1	—	17	6	—	—	—	37	—	—	1	—	—	9	26	225
3. Dairies on which milk and cream are prepared for distribution or butter or cheese is manufactured	4	—	—	2	—	1	19	—	—	—	20	—	2	14	—	—	—	—	62
4. Public stables and khans and all stables and yards in which animals or birds are kept for commercial or industrial purposes	18	2	2	1	1	4	—	7	3	2	12	6	6	—	2	10	5	1	82
5. Slaughter houses	3	1	1	—	—	—	5	—	—	—	4	—	—	1	—	—	1	3	19
6. Pigsties and piggeries	—	1	—	—	—	—	—	—	—	—	1	—	—	—	—	—	—	—	2

NUMBER OF TRADES AND INDUSTRIES IN PALESTINE LICENSED DURING THE YEAR — 1933. *(Continued)*

Nature of Trade or Industry and Classification in the Schedule under the Trades and Industries Ordinance, 1927.	SUB-DISTRICT OF																		TOTALS
	Jerusalem	Ramallah	Bethlehem	Hebron	Beersheba	Jaffa	Tel-Aviv	Ramle	Majdal	Gaza	Haifa	Acre	Nazareth	Nablus	Jenin	Tulkarem	Tiberias	Safad	
Class I. B.																			
1. Barbers and hairdressers	102	18	20	24	5	111	83	48	25	29	82	27	35	27	3	15	25	16	695
2. Dyeworks	—	—	—	4	5	3	—	—	18	22	2	—	—	—	—	—	6	—	60
3. Factories for heating, cording, pressing or otherwise preparing wool, hair or jute for trade purposes	—	—	—	—	—	1	—	—	—	—	1	—	—	16	—	—	—	—	18
4. Laundries and dry cleaning establishments	20	—	—	1	—	8	28	3	—	—	19	—	1	1	—	—	—	—	81
5. Pharmacies and drugstores (including attars)	41	2	2	10	1	22	74	4	—	15	27	35	3	5	1	1	5	2	250
6. Rag and second hand clothing establishments	11	1	—	5	—	7	13	4	—	6	7	2	6	—	—	—	4	6	72
7. Starch factories	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
8. Manufacturing chemists and druggists and manufactories of medical products	1	—	—	—	—	—	7	—	—	—	—	—	—	—	—	—	—	—	8
9. Perfumery and scent manufactories	—	—	—	—	—	—	1	—	—	—	—	—	—	—	—	—	—	—	1
10. Premises on which materials containing poison are made or sold for agricultural purposes	—	—	—	—	—	—	3	—	—	—	—	—	—	—	—	—	—	—	3
11. Public pathological and bacteriological laboratories	2	—	—	—	—	—	3	—	—	—	1	—	—	—	—	—	—	—	6
Class I. C.																			
1. Alkali works	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2. Blood boiling establishments	1	—	—	—	—	—	1	—	—	—	—	—	—	—	—	—	—	—	2
3. Bone boilers	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
4. Bone burners	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
5. Crematoria	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
6. Fellmongers (including Furriers)	—	—	—	3	2	—	—	—	2	10	2	—	—	5	—	—	4	1	29
7. Gut scrapers	1	—	—	1	—	—	1	—	—	—	—	—	—	—	—	—	2	—	5
8. Knackers	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
9. Lime kilns	2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	5	—	—	7
10. Manure depots including depots for refuse and artificial manure depots and factories	1	—	—	—	—	5	2	—	—	—	—	—	—	—	—	—	—	—	8
11. Potteries, brick works and tile making industries	17	—	1	14	—	8	49	4	—	4	21	—	—	2	—	—	2	—	122
12. Tallow makers	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
13. Tanneries	2	—	—	9	-	1	1	—	—	—	1	—	—	—	—	—	—	—	14
14. Tripe boilers	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
15. Candle factories	2	—	1	—	—	—	2	—	—	—	—	—	—	—	—	—	—	—	5
16. Mirror factories	—	—	—	—	—	5	2	—	—	—	—	—	—	—	—	—	—	—	7
17. Paint factories	—	—	—	—	—	1	—	—	—	—	—	—	—	—	—	—	—	—	1
18. Paper factories	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
19. Soap factories (using animal or vegetable oils and fats)	1	—	—	—	—	3	4	5	—	—	—	—	—	19	—	—	—	—	32
20. Tobacco, tombac, cigarettes or Snuff Factories	2	—	1	—	—	1	1	—	—	—	2	—	—	1	—	—	—	—	8
21. Cement factories	—	—	—	—	—	—	—	—	—	—	1	—	—	—	—	—	—	—	1
22. Glue factories	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

TOTAL 14596

SECTION VI.

Quarantine Service.

General

72. Owing to the occurence of plague at Alexandria and Marseiles, precautionary measures were enforced at the ports of Palestine against arrivals by sea from those ports as follows:—

Against Alexandria from 24-7-33 to 19-8-33.
„ Marseilles „ 10-8-33 to 19-8-33.

Precautionary measures for Small Pox were taken against travellers from Alexandria arriving in Palestine by land or by sea during the period 10-1-33 to 12-4-33.

The Quarantine Regulations revised in 1932 were published on the 19th January, 1933 and the Quarantine Overtime Fees Regulations published on 12-5-32 were also revised and published on 14-12-33.

Proposals for the extension of Haifa Lazarette to provide adequate accommodation for increased immigration were prepared and submitted to Government and a scheme for the construction of an access road for vehicular traffic.

A quarantine landing quay is being incorporated in the oil dock extension of the port at Haifa.

Credits were approved for the construction of a small disinfecting station in the Harbour area which will include medical inspection rooms and facilities for the treatment of venereal diseases amongst seamen.

Owing to the lack of accommodation for dealing with immigrants at Jaffa port limitations were made as to the number permitted to be disembarked daily, numbers in excess of the fixed maximum are required to remain on board for disembarkation at Haifa Port.

Anti-Plague Measures in Ports.

73. Routine rat-catching operations were continued in the port areas of Haifa and Jaffa with the object of obtaining early information of the appearauce of epizootic plague. Rats caught are killed under conditions to prevent the escape of body vermin. Fleas so obtained are classified.

No rats were found on post mortem examination to be suspected of infection with plague. 606 rats were trapped of which 341 were R. Norvegicus and 265 R. Rattus. The average number of fleas per rat was 2.9.

1806 fleas caught were classified as follows:—

1355	Xenopsylla cheopis.
106	Ceratophyllus fasciatus.
260	Leptopsylla.
31	Ctenocephalus.
4	Others.
50	Not examined for classification.

Port Quarantine.

74. 354 passengers and 1876 immigrants were detained in the quarantine lazarettes on arrival at the ports. 151 Bills of Health, 54 Booklets to coasting vessels and 15 certificates were issued.

The records of quarantine procedure are shown in separate tables.

Air Quarantine.

75. The Imperial Airways re-opened the airport at Gaza and discontinued the use of Tiberias, Samakh and Ramle as ports of call. Quarantine supervision was arranged accordingly. 17 machines landed at Samakh and 277 landed at Gaza.

Routine measures were instituted for the quarantine supervision of Aircraft of the Iraq Petroleum Company.

Medical Surveillance.

76. 62596 travellers entered the country; 62194 by sea, 289 by land and 113 by air and were notified for health surveillance at their destinations. 61770 or 98.67% were observed of whom 3 were found to be sick, one suffering from measles, one from erysipelas, and one from diabetes who died two days after arrival.

Moslem Pilgrimage.

77. 247 Palestinian and 2 Trans-Jordan pilgrims proceeded to Mecca under official arrangements made by the Department. 10 Palestinians were notified as having proceeded under their own arrangements.

227 foreign pilgrims passed through Palestine en route for the Hijaz.

The Palestine and Trans-Jordan pilgrims were all subjected to prophylactic vaccinations against cholera and small pox.

All the official Palestine and Trans-Jordan pilgrims returned together with 22 other Palestinian and 2 other Trans-Jordans, and were subjected to medical surveillance at their destinations and found to be free from communicable disease.

85 foreign pilgrims passed through on their return journey and were kept under medical surveillance until they reached the frontier post of departure.

Immigration.

78. The total number of persons registered as immigrants during the year was 31977. Their classification by origin and religion is as follows :—

Countries of Origin	Total	Jews	Christians	Moslems
British Empire (excluding Aden and India)	759	287	472	—
Central Europe	6378	6229	148	1
Eastern Europe	16523	16504	19	—
Balkan States	1604	1548	56	—
Other European countries	387	209	177	1
North Africa	473	74	164	235
Western Asia (including Turkey, India, Iraq, Persia and Afghanistan)	2559	2355	141	63(*)
U. S. A.	1200	1169	29	2
Central and South America	160	123	33	4
Other countries, Stateless and Undefined	1934	1829	68	37
GRAND TOTAL	31977	30327	1307	343(*)

(*) Including six Druzes, Bahais aud Hindoos.

18413 immigrants and travellers permitted to remain as immigrants were medically examined under the Immigration Regulations as follows :—

	Jerusalem	Jaffa	Haifa	Other Places	Total
Number examined	1627	2253	14313	220	18413
Percentage of total examinations	8.83	12.23	77.73	1.14	—

RECORD OF QUARANTINE PROCEDURE WITH VESELS — 1933

Month	Free Pratique			In Quarantine			Total of Vessels
	Nnmber of S. S.	Number of S. V.	Totals	Number of S. S.	Number of S. V.	Totals	
January	186	15	201	—	—	—	201
February	167	24	191	—	—	—	191
March	169	62	231	—	—	—	231
April	147	143	290	—	—	—	290
May	138	242	380	—	—	—	380
June	136	228	364	—	—	—	364
July	148	516	664	—	—	—	664
August	150	446	596	—	—	—	596
September	172	246	418	—	—	—	418
October	162	258	420	—	—	—	420
November	172	123	295	—	—	—	295
December	211	47	258	—	—	—	258
TOTALS	1958	2350	4308	—	—	—	4308

RECORD OF PERSONS SUBJECTED TO "MEDICAL OBSERVATION" AT PORTS DURING 1933

Port of	Persons detained in Lazarettes						In Quarantine on Board Ships
	Passengers.	Immigrants	Pilgrims	Crew	Workmen	Totals	
Jaffa	—	1	—	—	—	1	—
Haifa	354	1875	—	—	—	2229	—
Acre	—	—	—	—	—	—	—
Gaza	—	—	—	—	—	—	—
TOTALS	354	1876	—	—	—	2230	—

RECORD OF PERSONS SUBJECTED TO "MEDICAL SURVEILLANCE" DURING 1933

Entering Palestine at	Number Notified	Number of Passengers Found at Destination		Number not found at Destination	Percentage found
		Healthy	Sick		
Jaffa by sea	29403	29101	2	300	98.94
Haifa ,, ,,	32791	32264	1	526	98.39
Acre ,, ,,	—	—	—	—	—
Gaza ,, ,,	—	—	—	—	—
Kantara by land	289	289	—	—	100.00
By air	113	113	—	—	100.00
TOTALS	62596	61767	3	826	98.67

Laboratory Services

General.

79. The Department's laboratory service has been provided since 1930 by the Government Central Laboratories in Jerusalem, quarantine laboratories at the ports of Jaffa and Haifa, and clinical laboratories in certain municipal hospitals. The Central Laboratories, while consisting primarily of Bacteriological, Chemical and Entomological Divisions, include, in addition to forensic, bio-chemical, physical, and agricultural analytical laboratories, the Government Lymph Establishment, the Central Antirabic (Pasteur) Institute, and a General Vaccine Sub-section for the preparation of agglutinating and precipitating sera and of all curative and prophylactic vaccines used in Palestine and Trans-Jordan; they also accommodate and maintain the Standard Weights and Measures. The quarantine laboratories, although fulfilling all the diagnostic needs of the port towns, are mainly designed to satisfy the requirements of the International Sanitary Convention. Further links in the chain of pathological service are found in the principal cities and townships, where institutes, conducted by public bodies and private individuals alike, contribute to the ample laboratory facilities now enjoyed by Palestine. Strict control over laboratories has been made possible by the issue of Special Conditions which limit the issue of annually-renewable-licences to wholly satisfactory candidates and premises. For purposes of licence, Public Pathological and Bacteriological Laboratories are held to mean any premises used or intended to be used for the examination of material, human or veterinary, for purposes of gain, and primarily as an aid to diagnosis, and to ascertain the presence, nature, source and progress of disease in the human or animal body; or any premises used for the manufacture of certain therapeutic substances specified in the Conditions; or any premises used or intended to be used for both purposes.

During 1933 the principal alterations in the Department's Central Laboratories were seen in the completion of buildings designed for the housing of the agricultural analytical laboratory and of the standard weights and measures.

During 1933 the Bacteriological Division has dealt with 160,884 specimens sent for examination — an increase of 35,975 over the 1932 figure; it has prepared 367,200 doses of calf lymph, 116,000 c. c. of carbolized antirabic vaccine and 105,720 c. c. of anti-enterica prophylactic. Vaccine issues have included 627,400 doses of calf lymph — 167,960 doses for the epidemic needs of July alone, — 109,524 c. c. of antirabic vaccine for bitten human beings and 100,000 c.c. for bitten animals, and 102,300 c.c. of anti-enterica vaccines. The antirabic vaccine, equivalent to 1566 human treatment courses, has been used at 34 district dispensaries, complete decentralization being the policy in Palestine.

In addition, however, to such work of a routine nature, certain special investigations have been undertaken, viz., examination of the Iraq Petroleum Company's water supplies, bacteriological and chemical control or the Y. M. C. A. swimming pool, isolation and typing of tubercle bacilli from bovine and human sources, a continuation of last year's enquiries into the efficacy of various antienterica vaccines and into the nature of Trinidad virus, and detailed studies of the pathological changes observed in paralysis of the Landry type — and of the histology of neuro-paralytic accidents complicating antirabic treatment. Further, the possibility of an influenza-like epidemic among dogs being due the same causal agent as was responsible for a co-existing influenzal epidemic among Jerusalem's human population has been considered.

In the Entomological Division a classification of insects collected by departmental personnel or submitted from other sources has formed the normal work of the laboratory. Identification has been made of anopheline and culicine mosquitoes in their aquatic and winged stages, of other diptera of medical interest and importance, and of the Siphonaptera infesting the rats caught at the ports of Jaffa and Haifa.

In the Chemical Division 6,293 samples, including some 400 of an agricultural nature, have been examined. In addition 3702 milk specimens have been analysed in the twelve provincial centres equipped for the purpose. Special work has embraced an investigation into the composition and origin of 763 counterfeit coins for the Currency Board, a continuation of the corrosion experiments on aluminium alloys for the War office, and the analysis of honey, oranges and olives for the Department of Agriculture. A scheme for the limited application of the Weights and Measures Ordinance has been submitted and equipment for the verification of local and working standard weights and measures has now been installed.

Upon the personnel of the Department's Central Laboratories the following duties have, therefore, devolved: the meeting of all diagnostic needs; the preparation, standardisation and issue of all necessary prophylactic and curative vaccines; the identification and classification of insects, snakes and molluscs; the recognition of animal parasites affecting man; the investigation of problems such as water supplies, rabies control and anti-enterica measures; research in pathology, bacteriology and chemistry; the maintenance of an adequate roster of blood donors; the provision of an analytical service for Government Departments and for the Public; the carrying out of all medico-legal and chemical work connected with the scientific detection of crime — a never-ending and time-consuming task;— the performance of all kinds of bio-chemical examinations, and the preservation of the Government's standard weights and measures. It will be appreciated also that from its consistent service to all branches of Government, the Laboratory Section of the Department has become a vital factor, not only in preventive and in curative medicine but in the administration of justice and in the collection of revenue.

Report of Work performed.

80. The report, while intended to give some account of the principal diagnostic findings made in Palestine during 1933, is mainly concerned with the work carried out at the Central Laboratories in Jerusalem and is presented under the headings and in the order shown in the subjoined index.

A. BACTERIOLOGICAL DIVISION.

1. Routine Diagnosis.
2. Pathological Findings.
3. Public Health Examinations.
4. Medico-Legal Investigations.
5. Anti-Rabies (Pasteur) Institutes. } The Vaccine Institutes.
6. Calf-Lymph Establishment. }
7. Vaccines and Sera. }
8. Research.
9. Statistical Tables.
    I. Record of Bacteriological Examination during 1933.
    II. Laboratory Findings in Malaria—1933.
    III. Anti-Rabies Service Statistics.
    IV. Yearly Statement of Rabies Control in Palestine.
    V. Control of Rabies—Destruction of Stray Animals.

B. ENTOMOLOGICAL DIVISION.

1. Routine Duties.

C. CHEMICAL DIVISION.

1. Summary of Work Done.
2. Note on Work Undertaken for Government Departments etc.
    (a) Public Health and Medical.
    (b) Police, C. I. D. etc.
    (c) Customs, Excise and Trade.
    (d) Agriculture and Development,
    (e) Other Departments.
    (f) Private Sources.
3. Special Investigations.
4. Weights and Measures.
5. Statistical Tables.
    A. Samples Examined during 1933.
    B. Milk Analysis in Central Laboratories and Districts.
    C. Chemical Service for Agriculture.

BACTERIOLOGICAL DIVISION

Routine Diagnosis.

81. During the year investigations of a routine nature numbering 160,884 have been carried out—an increase of 35,975 over the 1932 figure; of the total number 22,391 have entailed cultural examination. The type of specimens submitted and of examinations required, together with the positive results of greatest interest, is shown in Table I.

BLOOD FILMS.

Table II details the laboratory statistics for 1933. In all 5531 films have been examined and 646 have proved to be positive, viz., P. vivax 407, P. malariae 4, P. falciparum 235. In 25 cases of relapsing fever the Spironema recurrentis has been demonstrated. Leishmania tropica has been found on 17 occasions, while other positive results have included B. anthracis 3 times and Babesia bovis 3 times.

BLOOD EXAMINATIONS.

Red and while cell enumerations have totalled 4437, estimations of the haemoglobin index 3883, differential counts 4108. From 3525 specimens received for blood culture the following organisms have been recovered on the number of occasions indicated: Bact. typhosum 242 times, Bact. paratyphosum A 8, Bact. paratyphosum B 9, Bact. coli 1, Streptococcus pyogenes 8, Staphylococcus 9, Str. pneumoniae 3 times, B. pseudo-asiaticus and Bact. faecalis alkaligenes each on one occasion.

SEROLOGICAL INVESTIGATIONS.

(1) Diagnosis of Syphilis.

The total number of blood specimens received for examination has been 4946, of which 720 have proved to be positive by the Wassermann Reaction (M.R.C.No.1 Method) and 35 by the Kahn.

(2) Agglutination Tests.

The agglutinin content of 15,140 sera has been investigated. Positive reactions have been obtained in diagnostic dilution with the following organisms: Bact. typhosum 892 times, Bact. paratyphosum A 35, Bact. paratyphosum B 245, Bact. paratyphosum C 21, Br. melitensis 10, B. asiaticus Castellani 9, Proteus X19 32 times, while patient's serum has on one occasion agglutinated Bact. alkaligenes faecalis in a 1:200 dilution.

As a result of the past two years' work on agglutinin response to recent anti-enterica vaccination, it has been found desirable to abandon the use of only qualitative methods in the serum diagnosis of the enterica. In the light of present knowledge a combination of qualitative and quantitative methods of serum analysis is greatly to be preferred, and this conclusion has been reached after six years' exclusive employment of qualitative receptor analysis.

With regard to the agglutination of Bact. alkaligenes faecalis, it is well known that this organism may give rise to enterica-like infections in man and that it has been isolated from the blood and faeces of patients suffering from true enterica fevers; its isolation from the gall bladder in cholecystitis has once been recorded and its presence in one case of simple intestinal catarrh and in one case of pyelonephritis complicating pregnancy has been detected. In the blood serum of man so infected, however, agglutinins seem rarely to be developed and in few cases has agglutination occurred in a serum dilution of 1:50 or over. In the case now recorded the Bact. alkaligenes faecalis was recovered from the urine and from the kidney of a patient suffering from renal calculi; the organism actually formed the organic nucleus of one stone and was isolated in pure culture. In common with the majority of faecalis strains recovered from human beings the organism under review proved non-pathogenic to white mice and to guinea-pigs when injected intraperitoneally in a dosage of 1 c.c. and of 0.3 c.c. respectively of a 24 hours' bouillon culture. In one case of pyelonephritis, in which the causal organism was Bact. paratyphosum C, patient's serum agglutinated in 1:500 dilution the organism isolated from the urine, while stock paratyphosum C serum agglutinated the organism to full titre (1:10,000).

Blood grouping has been carried out on 722 occasions. 70 police exhibits have been investigated with a view to ascertaining the group to which blood stains on articles and garments belonged.

A roster of volunteers from the British Police proved suitable as "donors" has been prepared and made available for emergency use. The list includes 38 donors in Group O, 30 in Group A, 13 in Group B and 2 in Group AB. During the year, however, no calls have been made on this service.

(4) Complement-fixation Tests.

(a) Besredka's technique has been applied in respect of 4 sera sent for the diagnosis or corroboration of apparently tubercular conditions. In one case only has a "weak positive" been obtained.

(b) Weinberg's test for the detection of echinococcus disease in man has been used in respect of 13 suspected cases without positive result.

(5) Other tests.

Coagulation time and the sedimentation rate of red blood cells have from time to time been estimated.

(6) Precipitin Reactions.

For differentiation between blood of human origin and blood from other sources 156 precipitin tests have been carried out. In 50 cases human blood has been demonstrated while in 20 cases the presence of animal blood has been established.

FAECES.

Microscopic examination has been made of 18,333 stool specimens, cultural investigation of 8098.

Of the microscopic findings the following are the most important:—

(1) Protozoa: Entamoeba histolytica (free) 363, E. histolytica (cyst) 331; Giardia intestinalis 428; Chilomastix mesnili 68; Trichomonas intestinalis 439.

(2) Worm Ova: ***Nematodes:***— Ankylostoma duodenale 2001, Ascaris lumbricoides 1220, Trichuris trichiura 970, Enterobius vermicularis 66. ***Cestodes:***—Taenia saginata 352, Hymenolepis nana 378, Diphyllobothrium latum 1. ***Trematodes:***—Heterophyes heterophyes 65, Dicrocoelium dendriticum 9. This is the first occasion on which infestation with the Dicrocoeliidae has been recorded in Palestine—although it is not unknown in Syria and the Lebanon.

True incidence of infection with helminths is not shown this year. An intensive hookworm survey and campaign in the endemic Jaffa areas has led to the examination of many more stool specimens than in ordinary years. The numerically most important worms in Palestine have been shown to be Trichuris trichiura and Ascaris lumbricoides, representing respectively 52 and 32.6 per cent. of positive helminthic findings.

From the cultural examinations, Bact. typhosum was demonstrated 43 times, Bact. paratyphosum A, B and C on 5,3 and 2 occasions respectively, the dystentery bacteria occured 510 times, viz., Flexner-Y in 333 cases, Shiga in 91, Strong in 76 and Schmitz in 10 cases.

URINES.

Microscopic examinations of the urine have totalled 25,606 routine chemical investigations 19,590. From 1867 catheter specimens certain organisms have been isolated, viz., Bact. typhosum 13 times, Bact. paratyphosum A, B and C once each Bact. coli 37 times, Bact. alkaligenes faecalis once. On 25 occasions the ova of Schistosoma have been discovered.

SPUTA.

Of 2544 specimens of sputa examined microscopically 298 have been found to contain the Mycobacterium tuberculosis. The Pneumococcus (Str. pneumoniae) has occurred in 43 sputa. Other positive findings of interest have been 36 cases of Blastomycosis.

Monilia has been associated with respiratory disease on 23 occasions and in the sputum of one patient, previously engaged on factory work in England, typical asbestosis bodies have been demonstrated.

PHARYNGEAL SWABS.

These have numbered 5548, the more important pathological findings being C. diphtheriae 503 times, Spirochaeta vincenti and fusiform bacilli in 52 cases of Vincent's angina, and Mycobact. leprae from 16 cases of leprosy housed in the Moravian Hospital in Jerusalem.

URETHRAL SMEARS.

Of 799 urethral and vaginal discharges examined 143 have contained the Neisseria gonorrhoeae.

CEREBRO-SPINAL FLUID.

Lumbar puncture has been performed in 168 cases; by microscopic and cultural methods the following organisms have been incriminated in meningitic conditions:— Str. pneumoniae in 29, N. meningitidis in 2, Mycobact. tuberculosis in 4 and Streptococcus in 18.

RABIES.

Of 74 brains extracted from suspectedly rabid animals and forwarded by or on behalf of the Veterinary Authorities 40 have proved to contain Negri bodies.

A positive diagnosis of rabies infection has also been established in 18 out of 24 cases to which for reasons of special importance the biological test had been applied. No viruses of extraordinary virulence have been encountered during the year.

MISCELLANEOUS.

In conjunctival exudates the causal organism of inflammation has proved to be Haem. Koch-Weeks on 14 occasions, Haem lacunatus twice.

267 specimens of hair have been submitted, and of that number 93 proved to be infected with Trichophyton and 3 with Favus.

B. anthracis has been found in 3 spleen smears out of the 9 forwarded for examination.

216 samples of gastric juice have been investigated and 90 specimens of seminal fluid have been examined for viable spermatozoa.

Miscellaneous investigations have totailed 4365 and have included the widest possible range of laboratory enquiry.

Pathological Findings.

82. The total number of specimens received for histological diagnosis numbered 162 of which 74 have been examined for the presence of Negri bodies. The principal findings in the morbid tissues submitted on behalf of human beings are detailed below:

No.	Nationality	Sex	Age	Site of tumour	Nature of growth
1	Palestinian	F.	35	Eyelid	Epithelioma
2	,,	M.	5	Orbit	Endothelioma
3	,,	F.	6 mo.	Ear	Haemangioma
4	,,	M.	17	Anus	Polyp
5	,,	M.	52	Eylid	Epithelioma
6	,,	F.	40	Uterus	Polyp
7	,,	M.	8	Upper jaw	Myeloma
8	,,	M.	48	Larynx	Leukoplakia
9	,,	F.	14	Neck	Lympho-granulomatosis
10	,,	F.	45	Upper lip	Epithelioma
11	,,	F.	40	Breast	Carcinoma
12	,,	F.	50	Head	Epithelioma
13	,,	F.	26	Uterus	Polyp
14	,,	F.	40	Cervix uteri	Carcinoma
15	,,	F.	25	Cervix uteri	Fibroma
16	British	F.	53	Breas	Carcinoma
17	Palestinian	F.	60	Axilla	Adeno-carcinoma
18	British	M.	?	?	Molluscum contagiosum
19	Palestinian	M.	?	Thigh	Sarcoma
20	,,	F.	?	?	Carcinoma
11	,,	F.	42	Leg	Melanotic sarcoma
22	,,	F.	45	Tibia	Myeloma
23	German	M.	40	Larynx	Leukoplakia
24	Palestinian	F.	46	Uterus	Polyp
25	,,	F.	?	Eyelid	Epithelioma
26	,,	M.	?	Knee	Fibroma
27	,,	M.	20	Iliac fossa	Myxoma
28	,,	M.	?	Upper lip	Epithelioma
29	,,	F.	60	Forehead	Hypernephroma
30	,,	M.	29	Rectum	Carcinoma

During the year an investigation has been undertaken with a view to determining the microscopic appearances in the neuroparalytic accidents of antirabic treatment. Paralysis has been found to be due to an affection of the ganglion cells, motor and sensory alike, an affection characterized by primary nuclear changes proceeding often to complete karyolysis and final cytolysis. Microscopic examination of brain and spinal cord reveals little more than varying degrees of degenerative change in the nerve cells. Reference will be made later to this enquiry under "Research".

WATER EXAMINATIONS.

Public Health Examinations.

83. During 1933 the number of bacteriological examinations of water supplies has been 1180. As usual such investigations have included those made on public supplies and on the products of aerated water factories. Adequate laboratory control over all ice factories has also been exercised. The Y.M.C.A. swimming pool erected during 1932 in Jerusalem has been extensively patronised and the guarantee originally given to control the purity of the water by laboratory means has been continued throughout 1933; two samples representative of the water at the surface and middle-depth have been examined weekly and investigated in respect of their p.H., their degree of alkalinity, their content of free chlorine and of intestinal Bact. coli. It has been of interest to observe that with the method of filtration and chlorination in force the degree of bacteriological purity of the water has invariably equalled the public water supply of the town. Examination of the water sources along the South Line of the Iraq Petroleum Company has also been undertaken and some 14 samples have been received monthly. With regard to examinations made on behalf of this company it has been considered advisable to add to the ordinary Flaginac test, two tests which help to differentiate Bact. coli

(faecal or intestinal) from Bact. aerogenes (non-faecal), viz., dextrose phosphate broth and sodium citrate. Investigations also have made into the purity etc. of the water selected for Jerusalem's new public supply.

MILK EXAMINATIONS.

It has been mentioned in the 1932 report that an investigation into the tuberculosis incidence in raw milk supplies had been begun and that by the end of that year 106 selected samples had been subjected to biological test by guinea-pig inoculation. The details of biological testing have followed those adopted in the enquiry into the tuberculosis infection of the milk supply in Scotland. During 1933 the Haifa, Acre and Nazareth supplies have been dealt with and in all 82 examined. As in the previous year all samples have proved to be wholly free from tubercle bacilli, there being a complete absence of any lesion in all guinea-pigs subjected to test. The investigation will continue and will be completed during 1934. Negative results are ordinarily to be expected in view of the fact that tuberculosis among slaughter-house cattle is exceptional.

EXAMINATION OF RATS FOR PLAGUE.

In conjunction with the efforts to identify the rat fleas of Jaffa and Haifa 593 rats have been collected and examined bacteriologically for plague. Of the number caught 333 have been found at the Jaffa port and 260 at Haifa. On no occasion has Pasteurella pestis been discovered. Of the 333 Jaffa rats 103 have proved to be R. norvegicus, 230 R. rattus; of the 260 Haifa rats 233 have been R. norvegicus and 27 R. rattus. The relative percentage of rats collected has thus been R. norvegicus 56.66 and R. rattus 43.34. The total number of fleas caught has been 1756, viz., 1297 on R. norvegicus and 459 on R. rattus. The fleas have been identified but they wiil be referred to in the report of the Entomological Division.

EXAMINATION OF IMPORTED SHAVING BRUSHES.

In accordance with a routine begun in 1920 examination has been made of 278 shaving brushes, i.e. 5 per cent. of all consignments imported. On no occasion has the B. anthracis been detected.

ANKYLOSTOMIASIS INVESTIGATION.

The enquiry, instituted during 1932 in the Jaffa District, has been continued throughout 1933. In this connexion the Jaffa laboratory has been responsible for the carrying out of 3775 stool examinations and for the following interesting findings of worm ova:— Ankylostoma duodenale on 1933 occasions, Ascaris lumbricoides on 479, Hymenolepis nana on 333, Taenia saginata on 180, Trichuris trichiura on 125, Trichostrongylus orientalis on 138 and Enterobius vermicularis on 2. The degree of helminthic infection in the Jaffa area is thus well illustrated.

As has been frequently noted in previous reports the incidence rate of ankylostomiasis and the infestation rate of A. duodenale have been studied in the area N.E. of Jaffa with its well-irrigated orange groves.

MISCELLANEOUS EXAMINATIONS.

Only two snakes have been forwarded during the year for identification; both were of a non-poisonous variety, viz., Zamenis ravergieri.

Imported vaccines and sera and other products of bacterial origin are not released from Customs until a sample has been sent to the Central Laboratories for examination and a satisfactory report been received. In the case of vaccines and sera of a curative and/or prophylactic nature, the question is one of sterility. During 1933 the number examined has been 48.

On two occasions only have snails been sent as suspected intermediate hosts of S. haematobium; during the year no new area has been added to the known endemic foci of urinary schistosomiasis.

Medico-legal Investigations.

84. The number of cases referred to the Bacteriological Division during 1933 has totalled 56 and this has comprised 299 police exhibits. As usual investigations have been concerned with enquiries into the origin and nature of stains on clothing, weapons, wood etc., and necessitated

the performance in 156 instances of corroborative and differentiating tests for blood. The exhibits have been of wide range and variety, consisting of articles of clothing, sand, stones, earth, sacks, daggers, firearms, finger-nail parings, embryonic tissue, iron piping and iron bars. Blood grouping has been performed on 70 occasions with extracts obtained from various sources and 7 times with blood obtained directly from victim or accused. Other investigations have included the examination of garments, carpets etc. for the presence of spermatozoa in cases of alleged rape and sodomy, determination of the nature and type of material expelled from the uterus, identification of hairs, fibres and sand, and deduction of the trade of the victim. The laboratory has proved successful in demonstrating on police exhibits the presence of human blood on 50 occasions, in ascertaining the correct blood group 11 times, in confirming blood stains to be of animal origin on 20 occasions and in finding human spermatozoa 6 times.

The following analysis of the work performed well illustrates its scope and variety:

Type of Exhibit	Reason for Examination	No. of articles investigated
Blood stained articles	Determination of origin of blood	156
Blood stained articles	Ascertainment of blood group	70
Blood	For blood grouping	7
Suspicious stains on clothing	For presence of spermatozoa	31
Hairs	Animal or human	13
Hairs	For comparison	9
Sand	For comparison	2
Uterine contents	Nature and type	2
Fabrics	For comparison	2
Various exhibits	To determine victim's trade	7

In addition to the above a number of exhibits has been received from the Government of Trans-Jordan mostly for the determination of blood stains and of the type and nature of tissue suspected to be embryonic.

Expert evidence by members of the Bacteriological Division's staff has been given before the Courts on numerous occasions.

GENERAL.

The Anti-Rabies (Pasteur) Institutes.

85. The antirabic vaccine used by the Government Departments of Health and Agriculture and by non-Government medical organisations in Palestine has been prepared since 1923 in the Central Anti-Rabies Institute, a branch of the Department's Central Laboratories. The vaccine which may now be said fairly to have stood the test of time and experience, is a modification of Semple's, i.e. it is a 2 per cent. emulsion of fixed-virus brain, killed by the combined action over 24 hours of heat at 37°C. and of 1 per cent. phenol and diluted to half with physiological saline solution prior to use. Treatment is universal, consisting of the daily intracutaneous administration over 14 days, of 5 c.c. of this carbolised virus. For economic and utilitarian reasons a policy of complete decentralisation of treatment has been continuously pursued here and this is reflected in the fact that during 1933 there have been 29 treatment centres in operation. Thus at present facilities for Pasteurian treatment are provided by Government at Jerusalem, Bethlehem, Hebron, Beersheba, Ramallah, Jaffa, Gaza, Ramle, Haifa, Acre, Nazareth, Nablus, Jenin, Tulkarem, Tiberias and Safad, and by Qupat Cholim, an organisation for the relief ot sickness among Jewish labourers, at Tel-Aviv, Petah Tiqva, Nes Tsiyona, Rishon le Tsiyon, Rehovot, Herzelia, Kfar Sava, Ra'anana, Haifa, Binyamina, Hadera, Affula and Nahalal. The Department's antirabic vaccine has also been issued to the Medical Authorities of the Army and Air Force stationed in Palestine and to the Government of Trans-Jordan.

During 1933 there have been prepared 115,924 c.c. of carbolised vaccine and 121,530 c.c. issued. In all 1328 bitten persons and 23 domestic animals have received treatment.

RESULTS OF ANTI-RABIES TREATMENT.

Table III records the number of persons treated during the year at the 29 provincial centres supplied with the Department's antirabic vaccine. Actually 1372 persons have applied for advice regarding their wounds, and 1328 have received treatment; in 568 cases, however, treatment has been discontinued after 10 days' injections, the biting animals having remained alive and well at the end of that period of observation. The total number of persons, therefore, to whom a full, regular course of vaccination has been administered, has been 760; of that number one has died of hydrophobia, which developed in about one year after the dog bite. The percentage mortality, calculation being based on the number of cases exposed to risk only, has been 0.13 and the case, according to conventional standards, has to be relegated to the category of "failures of treatment". It may be that the protracted period of incubation in the fatal case can be explained by latency of the virus; as was suggested in the 1931 report, it would appear that the virus may remain latent in the nerve centres for long periods of time and may thereafter be brought into activity by secondary influences such as trauma, cephalitis, emotion and the like.

Particulars of the fatally-ending case are as follows:— N.A.I, male, aged 28 years, farmer, Palestinian Arab was bitten by a dog on 17-9-32; the biting animal was at the time proved to have been rabid by histological examination and biological tests. Patient received 14 antirabic injections at the Government Hospital, Haifa but absented himself on three occasions during the period of treatment. His wounding consisted of 2 severe wounds on the upper extremity inflicted through naked skin; these were cauterized on the day of bite. On 28-8-33 he was admitted to hospital with symptoms of fear, salivation, excitement, thirst and insomnia; on 29-8-33 he became wildly excited and incoherent and developed fits which persisted till he died in the evening of that day. The incubation period in this case was 346 days and the duration of his illness 2 days.

During the year no neuro-paralytic accident of treatment has occurred.

OCCURRENCE OF RABIES IN ANIMALS.

112 cases of rabies among animals have been reported in 1933 and and from the particulars published monthly in the Department of Agriculture's Veterinary Bulletins it appears that the months of greatest incidence were March, June and October with 11,13 and 13 cases respectively. The animals affected have been 84 dogs, 15 cats, 3 jackals, 5 equines, 4 bovines and 1 rat. As usual the dog has continued to act as the principal reservoir and disseminator of rabies in Palestine, for of the 760 persons definitely exposed to risk of rabies infection, 586 have been bitten by dogs, 120 by cats, 11 by jackals, 13 by solipeds, 4 by ruminants and 26 by other animals. The dog has, therefore, been responsible for 77 per cent. of the persons treated for bites by suspectedly or proved rabid animals. Moreover the dog has been the biting animal in 1009 cases out of the total 1328 persons presenting themselves for treatment and to whom part or full courses have been administered, i.e. 76 per cent. As already reported, 24 brains have been extracted from animals suspected of rabies and forwarded by Veterinary Officers to the Central Laboratories for diagnosis; of this number 40 specimens have been proved to contain Negri bodies, while a positive diagnosis of rabies infection has been established in 18 cases out of the 24 to which for reasons of special importance the biological test had been applied.

The wide-spread nature of rabies in this country may best be gauged from the fact that during 1933 there have been 64 localities and 15 sub districts affected.

Further, 23 bitten animals have been subjected to courses of antirabic treatment, viz., 18 bovines, 3 equines and 2 pigs. To the bovines have been administered 33 c.c. of a 5 per cent. suspension of carbolised killed virus during a period of 7 days, to the equines a similar dosage, and to the pigs 12 c.c. over 5 days. In all cases treatment has been successful. Detailed information is available in respect of 18 of the bitten animals treated:—

5 cows bitten on lower extremity by a clinically rabid donkey.

1 cow bitten on head and neck by a clinically rabid dog.

4 calves bitten on lower extremity by a clinically rabid dog.

1 calf bitten on lower extremity by a rabid dog. (clinical and laboratory).

2 oxen bitten by a rabid donkey on ear and thigh. (clinical and laboratory).

1 horse bitten on lower extremity by a rabid dog. (clinical and laboratory).

2 pigs bitten on lower extremity by a rabid dog. (clinical and laboratory).

1 donkey bitten on thigh by a suspected rabid donkey.

1 colt bitten on lower extremity by a suspected rabid dog.

Canine Prophylactic.

No considerable advantage has been taken of the canine prophylactic prepared in the Central Laboratories since 1927. The vaccine issued for this purpose consists of a 5 per cent. suspension of carbolised killed fixed-virus brain in normal saline solution and is administered in 3 injections on succeeding days of 2 c. c. daily. The lack of enthusiasm on the part of dog owners is largely to be explained on the grounds that present legislation does not enforce the application of such a protective measure to areas declared to be rabies-infected.

Measures of Control.

It has been pointed out in the 1932 report that the legislation dealing with rabies control had been proved to be defective. During the year the work of revising and redrafting existing legislation—Rabies Rules made under the Diseases of Animals Ordinance, 1926,—has been undertaken by representatives of the Police, Agriculture and Health Departments and the Rules in their amended form are meantime the subject of consideration by Government. Inter alia, it was pointed out that, for the protection of the public and determination of prophylactic treatment required, power must be given for the seizure and detention under observation of the biting animals for a period of 10 days from the date of biting; further that, from the point of view of rabies control, power should exist for the seizure and destruction of animals which are a public danger through the habit of biting.

Hydrophobia in Untreated Persons.

For the sake of completeness it has to be recorded that 2 cases of human rabies have occurred among the untreated. A brief synopsis of these cases follows:—

Case 1. J. M., female, Palestinian Arab, aged 25 years, housewife, was bitten by a cat on 6-6-32; one wound of moderate severity was inflicted on the right hand through naked skin. The wound was not cauterised and no treatment, local or specific was given. Symptoms of hydrophobia became first apparent on 11-1-33 and lasted until 18-1-33 when death supervened. Incubation period in this instance was 219 days.

Case 2. M. H., male, aged 35 years, Egyptian, was bitten on 20-7-33 by a fox which inflicted 3 wounds in all, 2 of moderate severity on the face and one of like gravity through the naked skin of the upper arm. No treatment was applied for and first symptoms were observed on 27-8-33. The illness lasted 5 days, death occurring on 1-9-33. In this case the incubation period was 38 days.

It is of interest to record that during the past decade the total number of deaths from hydrophobia has been 35 and of these 25 have occurred among treated patients and 10 among untreated. In 2 cases, however, treatment had not commenced until the 19th and 21st days respectively after the time of biting. During the 10 years in question 11,162 bitten persons have been treated and 5 cases of paralytic accidents have developed, of which 3 have proved fatal i. e. 0.45 per 1000.

GENERAL.

The Calf Lymph Establishment.

86. As usual the preparation of small-pox vaccine in Jerusalem has been confined to the cool period of the year, January to April. During 1931 a total of 591,400 doses had been produced and during 1932 some 200,000; as the issues for the two years amounted to just under 400,000 doses, only 350,000 doses had to be manufactured during 1933. Reserve stocks at the beginning of 1933 totalled nearly 900,000 doses and it proved fortunate that the Department possessed this stock as epidemic requirements necessitated the issue of between 500,000 aud 600,000 doses. During July alone 167,960 doses had to be distributed. These abnormal issues have been due to the occurrence, for the first time during the past five years of small-pox in the country. Brought into Palestine by a nomadic tribe, the disease affected 31 persons (with one death). In Gaza town and district there occurred 4 cases, in Majdal 27. The protective value of the lymph issued is reflected in the rapidity with which the threatened epidemic was brought to an end. The needs of Trans-Jordan have also been fully met.

COST OF CALF LYMPH PRODUCTION DURING 1933.

(1) Statement of Manufacture.

Number of calves purchased.	57
Number of calves successfully vaccinated.	57
Number of grammes of pulp collected.	2295.3
Average number of grammes per calf.	40.2
Number of doses produced.	367,248

(2) Statement of Costs.

Expenditure.	LP.Mils.
Price of 57 calves (i.e. hire and cost of forage, stabling etc.)	96.900

Acutal cost per dose = 0.26 mil. or 1/16d.

RESULTS.

Potency tests have, as described in previous reports, been carried out on all lymph batches so as to ensure full activity at the time of issue. In addition, sterility tests have been constantly applied, with the result that no lymph leaves the laboratories unless it has an efficiency value of 100 per cent. and is absolutely free from extraneous organisms.

The quality of the lymph on arrival at its destinations will be appreciated by a reference to the results obtained in primary vaccinations during the past 5 years. In 1928 the number of such vaccinations performed and observed was 51,287 of which 44,106 or 86 per cent. proved successful. In 1929 the success was 36,016 positive insertions out of 38,158 or 94.6 par cent. In 1930, the percentage of success among primary vaccinations was 93.8 or 38,898 among 40,395. In 1931 the successful insertion rate was 94.8 or 43,508 out of 45,884 and in 1932 it was 94 per cent. or 40.274 among 42,902.

During 1933, the figures show that of 107,253 primary vaccinations performed throughout Palestine 104,711 or no less than 97.6 per cent. have been successful.

SALES OF LYMPH.

Lymph sales during the year have amounted to LP. 171.400 As usual, therefore, the sales have more than balanced the capital outlay. The commodity has been distributed to purchasers as follows:—to the Trans-Jordan Government 36,500 doses at LP. 118.750 mils, to the Medical Service of the Iraq Petroleum Company 8,950 at LP. 44.750 and to the Military Authorities in Palestine 1,580 doses at LP. 7.900. The revenue would have been considerably higher had issues to the Trans-Jordan Government not been made at half-price after July 7th on account of the financial stringency obtaining in that country.

VACCINES.

Vaccines and Sera.

87. The Bacteriological Division of the Central Laboratories has again been responsible for the preparation, standardisation and issue of all prophylactic and curative vaccines required by Palestine and Trans-Jordan. During the year the occurrence within certain areas of 1055 cases of typhoid fever and of 259 cases of paratyphoid fever in epidemic form has necessitated the supply of 23,880 c. c. T. vaccine and of 77,180 c. c. T. A. B. to the districts affected. The relatively larger issue of T. A. B. has to be explained by the fact of its routine employment not only in the vaccination of all case-contacts but in the protection of all immigrants. In March alone some 16,000 c. c. of T. A. B. have been supplied, while during the period August-October issues of this vaccine have totalled 23,480 c. c. Mention has already been made of the dosages of small-pox lymph and of antirabic vaccine manufactured and issued. Anti-cholera vaccine to an extent of 2730 c. c. has been supplied to confer immunity on the Palestine and Trans-Jordan contingents of the Mecca Pilgrimage but for this purpose 4710 c. c. had been produced.

A small quantity of anti-plague vaccine has been required - 270 c.c. only, but 3000 c.c. had been prepared during 1933.

Autogenous vaccines have numbered 575 and have as usual been mainly used in treatment of furunculosis and of affections of the respiratory and genito-urinary tracts. Marked success has been achieved in the post-operative treatment of a case of nephrotomy, necessitated by the occurence of a renal calculus with Bact. alkaligenes faecalis at its organic nucleus. A suspension of this organism exhibited at a time when convalescence threatened to be protracted accelerated the healing of the wound and greatly improved the patient's general condition.

The manufacture and issue of vaccines during 1933 is tabulated below.

Nature of Vaccine	Total Dosage Manufactured	Total Dosage Issued
Small-pox lymph	367,200	580,220
Anti-rabies	115,924	121,530
Anti-typhoid	26,310	23,880
T. A. B.	79,470	77,180
Anti-cholera	4,710	2,730
Anti-plague	3,000	270
Autogenous	17,250	17,250
Total	613,864	823,060

In the case of small-pox lymph and anti-rabies vaccine considerable stocks had been left over from the 1932 manufacture.

SERA.

The several agglutinating, haemolytic and precipitating sera used in routine diagnosis, in the Wassermann Reaction, and in medico-legal investigations dealing with murder, rape and cases of disputed paternity have been largely prepared in the Central Laboratories. Large quantities also of Groups II and III sera have been taken from volunteers and tubed for future use in the grouping of blood donors in transfusion cases and for use in criminal investigation.

Research.

88. Researches have been made along several lines :—

(a) Agglutinin response to recent anti-enterica vaccination.

The principal results obtained have gone to show that the appearance and persistence of 0 agglutinins in significant titres may follow in human beings and in rabbits the use of ordinary anti-enterica vaccines, but would appear to be more remarked in the case of vaccines to which no phenol has been added as preservative. It would further appear that subjection of anti-enterica vaccines for 2 hours to a temperature of 100°C. does not in every instance destroy their entire labile antigen content even when the application of heat is made to vaccines containing in suspension the number of bacteria ordinarily administered. It has also been found that titres of 1:1000 may follow the use of ordinary freshly prepared antityphoid vaccine within 15 days of the second inoculation, while residual titres of 1:200 have been not uncommonly present 7 months thereafter. Qualitative serum analysis alone, therefore, cannot be guaranteed invariably to distinguish between the agglutination due to protective inoculation and that ordinarily obtained during the course of enteric diseases.

(b) Neuroparalytic accidents complicating antirabic treatment.

Paralytic accidents are a rare complication of antirabic treatment but exhibit a certain periodicity in their occurrence. Since 1928 the condition has been observed in Palestine on 5 occasions: three patients showing Landry's syndrome have died, two with dorso-myelitis have recovered. Incidence has now been, for the first time, recorded among members of the age group 0 - 5 years. The proportion of cases to the number of treated persons varies according to method of vaccination employed. In this connexion statistics have proved the superiority of carbolized vaccines over all others, but now the safeguards thereby afforded have been shown to be by no means absolute. A cytotoxin, rather than a virus theory of origin is again advanced. (British Medical Journal, March 25th, 1933).

(c) Histology af antirabic treatment paralysis.

Microscopic examination of the cerebro-spinal axis reveals in brain and cord little more than varying degrees of degenerative change in the nerve cells. Between the normal intact ganglion-cell nucleus and its antemortem change there have been encountered certain intermediate types permitting affected nuclei to be divided into three categories, viz., clear basophilic type, dark basophilic type and dark homogeneous basophilic type. The liability of all three groups to karyolysis has been emphasized. Additional to the essential ganglion-cell changes positive histological findings include pronounced oedema of the grey substance in the cord, enlargement of perivascular and pericellular lymph spaces, enlargement of the small vessels and oedema of the glia. Negative results show no focal lesions, no destruction of nervous tissue other than the ganglion cells, no demyelination, no change in the axis cylinders, no focal increase of neuroglia, no perivascular or pericellular aggregations and no fat. It has been concluded that the total absence in the central nervous system of perivascular zones of demyelination and of perivascular cuffing argues against the inclusion of antirabic treatment among the heterogeneous group of factors (smallpox, vaccinia, measles, varicella and typhoid) capable of producing acute disseminated encephalomyelitis or acute perivascular myelinoclasis. It also argues against a virus theory generally. In so far as the causation of paralytic accidents is concerned, there seems to exist, in the basic nerve substance of all antirabic vaccines, some deleterious component which, though adversely affected by various physical and chemical agencies, is still capable, in peculiarly susceptible individuals, of producing neuro-paralytic disorders. (Journal of Pathology and Bacteriology. Vol. XXXVII, pp. 483-500, 1933.)

(d) Trinidad strain of rabies virus.

Much work has been carried out in an attempt to demonstrate a convincing cross-immunity between the Trinidad strains and the Paris strain. Unfortunately the results so far obtained have been rather disappointing and have made further investigation imperative.

(e) Bact. faecalis alkaligenes in the production of renal calculus.

(f) Bact. paratyphosum C as causal agent in pyelitis.

ENTOMOLOGICAL DIVISION.

General. 89. Routine duties have, since the abolition of the post of Medical Entomologist in 1931, been carried out largely by the bacteriological personnel of the Central Laboratories. It will be readily understood that this staff, already burdened with other work, as this report amply proves, has had no time to undertake any investigations of a special nature. The routine of the laboratory has included the identification and classification of insects collected by the departmental personnel engaged on anti-malaria duties or submitted from other sources such as private companies operating in midge-infested areas.

At the Central Laboratories identification has been made of anopheline and culicine mosquitoes in their aquatic and winged stages while the identification of Siphonaptera infesting the rats caught at the ports has been made at the Government Quarantine Laboratories at Haifa and Jaffa.

Specimens of *A. superpictus, A. sergenti, A. bifurcatus, A. elutus, A. algeriensis, A. hyrcanus, A. multicolor* and *A. pharoensis* have been identified during the year.

Phlebotomus papatasii has again been incriminated in the spread of oriental sore near Jerusalem.

The rat fleas have been identified as follows:—

Xenopsylla cheopis, Ceratophyllus fasciatus, Leptopsylla segnis, and Ctenocephalus.

The fleas on 606 rats, *R. norvegicus* 341 and *R. rattus* 265, have been examined and have totalled 1806, i.e. 1927 on *R. norvegicus* and 459 on *R. rattus*. *X. cheopis* has occurred on 1355 occasions, 966 times on *R. norvegicus*, 389 times on *R. rattus*. *C. fasciatus* has been found 106 times, 95 and 11 times respectively on *norvegicus* and *rattus*. *Leptopsylla* has been identified 260 times and has occured 209 times on *norvegicus* and 51 times on *rattus*.

Ctenocephalus has been encountered rarely, only 27 times on *norvegicus* and 4 times on *rattus*, in all on 31 occasions.

These findings may be summarized as follows:—

FLEAS PRESENT ON PORT RATS.

Fleas on R. norvegicus		Fleas on R. rattus		Total
Species	Number	Species	Number	
X. cheopis	966	X. cheopis	389	1355
C. fasciatus	95	C. fasciatus	11	106
Leptopsylla	209	Leptopsylla	51	260
Ctenocephalus	27	Ctenocephalus	4	31
		Others (not identified)	4	4

During the year the Central Laboratories have received from the Palestine Potash Company's Works near the Dead Sea not only sandflies and mosquitoes for identification but also three insects of more than ordinary interest:— (1) The *Culicoides judaeae* (Macfie) has again been observed. (2) The larvae of *Ephestia cautella*, the practically cosmopolitan Fig moth, has been seen in the stool of a young child. In the opinion of Tams, to whom the specimen was referred, it is not impossible for the larva to pass through the human alimentary canal without being destroyed. (3) *Lepidocyrtinus annulatus*, belonging to the order Collembola (springtails) has been found, very close to the water, among the pebbles on the shore of the Dead Sea.

CHEMICAL DIVISION.

Summary of Work Done.

90. A total of 9965 samples has been examined as compared with 9925 in 1932. This figure includes milk examined in the sub-districts and also 619 coins received at the close of 1932, but not included in the report for that year. In addition to the routine work investigations for the Department of Agriculture and Forests and for the Research Department, Woolwich, have been continued and an investigation on counterfeit currency has been completed.

As usual much advisory work has been undertaken which does not figure in the statistical Tables.

PUBLIC HEALTH.

(1) Food and Beverages.

Notes on Various Branches of the Work Undertaken.

91. The samples under this heading submitted for examination have been as follows: milk 3702, butter and other edible fats and oils 1332, condensed milk 2. coffee 11, pickles 1, colouring matters 3, mineral waters and cordials 20. (For alcoholic liquors see under Customs, Excise and Trade).

Of the milk samples examined 5.6 per cent. have been below standard as compared with 6 per cent. in 1935. (See Table B).

Of the 1332 samples of edible fats and oils, 1060 have been taken in Customs from imported goods. Of these 19 out of 780 samples of semni have been adulterated while all the 163 samples of imported butter have been up to standard.

The remaining 272 samples taken from retailers and local factories are shown hereunder with the number of adulterated samples in brackets:- semni 74, (17): butter 36, (8): margarine 3, (3): olive oil 81, (21): sesame oil 72, (1): other oils 6.

In the semni the adulterant has been largely vegetable fat of the cocoa-nut variety, while in the case of the butter and margarine excess water has proved the only fault. Of the 21 adulterated olive oils 15 have appeared to contain sunflower seed oil, 5 have contained arachis oil and 1 has contained sesame oil.

(2) Drinking Water.

The 184 samples submitted have been mainly from village and town supplies and the proposed new supply for Jerusalem from Ras-El-Ain, which is now subject to periodical examination with a view to determining such seasonal variations as may occur.

A portable outfit designed in the laboratory for determining the chlorides in water in the field has been found so useful that six similar sets have been fitted up for the Public Works Department, Development Department and the Survey Department.

The outfit provides means for the titration of the chlorine, using a silver nitrate solution of which each ml. is equivalent to 5 mgms. of chlorine.

(3) Drugs, Pharmaceutical Preparations and Disinfectants.

Under this heading 36 samples have been examined, 20 of which have been in connection with the Dangerous Drugs Acts. Two samples of disinfectant submitted in connection with alleged infringement of a trade mark have been found to be deficient in tar acids.

(4) Bio-chemical Specimens.

Of the 475 specimens compared with 399 examined last year 321 have been submitted by practitioners and private hospitals as compared with 191 from these sources during the previous year.

With a view to the further development of this branch, the Assistant mainly concerned with this work took a postgraduate course in Biochemistry at the Vienna University early in the year.

DEPARTMENT OF POLICE.

(1) Poisoning.

Specimens submitted in connection with human poisoning or suspected poisoning have numbered 69 representing 18 cases in which there have been 7 negative and 11 positive findings. The latter were Veronal 2; Lysol 2; Thallium 2; Arsenic 3; Cyanide 1; Alcohol 1. The cases of thallium poisoning occured near Beersheba where a mother and two children age 4 and 7 years inadvertently consumed some poisoned wheat imported for destruction of field mice. It is reported that twelve hours later the two children started vomiting with slight purging and very strong abdominal pains and the elder child, who, it is said, had eaten more of the wheat than his sister, continued these symptoms and died on the 5th day without medical attention. The younger child was comatose when seen on the 8th day and died on the 9th. The mother's symptoms were less severe and as far as is known she eventually recovered. The father of the family did not report the matter to the authorities until 3 days after the death of the elder child. Thallium was detected in the portions of viscera submitted and also in a sample of the "Zelio grains" from which they had eaten. Post-mortem findings were not reported.

In cases of poisoning or suspected poisoning of animals, 68 specimens have been submitted by Veterinary Officers and private veterinary surgeons. In 21 cases arsenic was found.

(2) Shooting.

Owing to the increasing demand on the Government Analyst's time for the examination of exhibits concerned in shooting cases, it has been found necessary to arrange that all such exhibits should be first examined at the central offices of the C. I. D. Under this arrangement, exhibits are forwarded to the laboratories only when the required examination is outside the scope of the technical staff of the Police Department or when a confirmatory opinion is desired.

Such exhibits this year totalled 89 as compared with 250 in 1932. They included firearms 4, bullets 24, cartridge cases 25, other related exhibits 36. In one case examination of a fragment of paper and fibre from a wound yielded presumptive evidence that a single ball 16 bore cartridge was concerned. In another instance there was evidence that the composition of the lead in confiscated bullets differed from that in bullets from the scene of the crime. In another case, it was shown that four 12 bore cartridge cases were all fired from one shot gun. Eight exhibits were connected with bomb throwing. In one case traces of potassium chlorate were detected in fragments of the exploded bomb.

(3) Drug Traffic.

In one case of alleged traffic in hashish, two samples of wrapping paper have been submitted for examination. One of these (A) was found in a suspect's house in Palestine and one (B) in a neighbouring country to which it was suspected that hashish had been smuggled. A physical and chemical examination showed that two kinds of paper were present in sample "B". The fluorescence test was of value in this case. Petrolium ether extracts from portions which showed green stains in the U. V. light gave positive reactions with Beams test for hashish.

(4) Other Crimes.

Excluding 763 coins dealt with under "Special Investigations" 149 exhibits have been examined in connection with Arson, Counterfeiting, Agrarian Crimes, Forgery, Burglary and Theft.

CUSTOMS, EXCISE AND TRADE.

Excluding the 1060 samples of imported edible fats and oils classified under "Public Health". 2321 samples of various kinds have been dealt with in connection with the various Customs and Excise Ordinances. These samples are classified as follows:— Alcoholic liquors 657, denaturants 32, oils and acid oils for soap making 1558, miscellaneous 74.

Under the Methylated Spirit Ordinance of 1932 denaturing in customs was abolished and methylating under Excise control was established. The Regulations stipulate that mineralized methylated spirit shall contain:

Alcohol of approved strength	100 parts by weight
Wood naphtha	5 parts " "
Mineral naphtha	1/2 " " "
Crude pyridine	1/2 " " "
Methyl violet	1/2000 " " "

Industrial methylated spirit is denatured with 5 parts of wood naphtha only and provision is made for the use of special denaturants. The denaturants have to conform to specified tests which have been based on the English regulations.

Eight specifications have been submitted by the Registrar of Patents and Designs for technical opinions.

DEPARTMENT OF AGRICULTURE, DEVELOPMENT DEPARTMENT AND GEOLOGICAL ADVISER.

Samples examined under this head total 440 and will be found classified in Table C.

The extention of the laboratories to accommodate this branch was completed in March. The routine work has continued to increase and the investigations on oranges, olives, honey and poultry foods mentioned in last year's report will, it is considered, be continued over a number of years.

Although soils and waters have from time to time been examined for private cultivators it would appear that the laboratory facilities which exist for this side of the work are little known and it has now been proposed to encourage and develop this service with the cooperation of the technical officers of the Department of Agriculture and Forests.

The potential value of this service to the public has been illustrated by the following example: A Jerusalem resident who contemplated the purchase of land for cultivation in the coastal plain submitted 8 samples of soil and 2 of water with a request for "Complete Analysis". On enquiry it was ascertained that the water represented the only available source for irrigating the land. This was therefore, tested for salinity which was found to be so high as to render the water quite unsuitable for irrigation. The would-be purchaser was thus saved the trouble and expense of acquiring a useless piece of land and also the cost of what would have been a quite unnecessary analysis of his 8 samples of soil.

OTHER DEPARTMENTS.

The Palestine Railways have submitted 17 samples while 16 samples have been examined for the Public Works Department, 3 for the Posts and Telegraphs, 33 for Antiquities, 4 for the Royal Air Force and 50 for the Trans-Jordan Government.

PRIVATE SOURCES.

Excluding the 321 bio-chemical specimens classified under (a) and 14 Veterino-legal specimens shown under (b) 95 samples have been submitted from unofficial sources.

The fees collected for these examinations including LP.11 from the Trans-Jordan Government amounted to LP.50.

COUNTERFEIT CURRENCY.

Special Investigations

92. At the request of the Palestine Currency Board an examination of 763 coins was undertaken with the object of discovering any evidence as to origin and other facts which might be of use to the Police.

The coins in question had been impounded as counterfeits by the Treasury and had been tendered mostly at Railway booking offices over a period of 26 months.

A representative selection of 69 coins was sent to the Comptroller at the Royal Mint whose report included the information that 14 of the coins were struck from 4 pairs of dies and that the remainder were cast coins, mostly from plastic moulds, and a few from metal moulds.

The findings in these Laboratories combined with those at the Mint classified 262 coins (all 50 mils) as struck counterfeits, five as genuine coins and the remainder as cast counterfeits, some of which were crude attempts in soft metal.

By low power microscopical examination, after cleaning with dilute ammonia and by photography giving a magnification of about 3 diameters in oblique illumination, it was possible to identify by characteristic faults in the coins nine different dies, and it was, moreover, possible to show that at least 5 of these dies, accounting for 67 per cent. of the struck icons, were in the hands of one group of counterfeiters.

The weights and diameters of these struck coins were in most cases approximately correct, but the silver content was considerably higher than that in the genuine currency. Tests carried out showed that when tendered they would generally deceive any but experienced cashiers on the look out for such counterfeits.

CORROSION OF ALUMINIUM ALLOYS BY PALESTINE WATERS.

Tests over a period of 6 months during which the alloys have been subjected to the corrosive action of saline water were completed and the test pieces sent to England for examination. Continuation of the experiments will depend upon the results of that examination.

GRADING OF PALESTINE HONEY.

Analytical data on the various kinds of local honey are being collected with a view to grading for export.

Difficulties have been experienced in obtaining samples direct from the hives and many of the earlier samples of doubtful origin have contained as much as 15 per cent. sucrose.

A number of samples of genuine orange and "field" honey has, however, been examined this year and further samples of these and of eucalyptus honey will be taken during the coming season by officers of the Department of Agriculture.

Weights and Measures.

93. Equipment for the verification of local and working standards is now available and a scheme for the limited application of the Ordinance was examined.

TABLE I.

RECORD OF BACTERIOLOGICAL EXAMINATIONS PERFORMED DURING 1933.

Nature of Specimens	Total Examinations	Nature and Number of Positive Findings	
Blood Films	5,531	P. vivax	407
		P. malariae	4
		P. falciparum	235
		Sp. recurrentis	25
		L. tropica	17
		B. anthracis	3
Blood Cultures	3,525	Bact. typhosum	242
		Bact. paratyphosum A	8
		Bact. paratyphosum B	9
		Streptococcus pyogenes	8
		Str. pneumoniae	3
		Staphylococcus	9
		Bact. alkaligenes	1
		Bact. coli	1
Cell Enumerations	4,437	—	—
Haemoglobin Index	3,883	—	—
Differential Counts	4,108	—	—
Histological Sections	162	—	—
Water Analysis	1,180	—	—
Milk Analysis	524	—	—
Sputa	2544	Mycobact. tuberculosis	298
		Str. pneumoniae	43
		Blastomycosis	36
Naso-pharyngeal Swabs	5548	C. diphtheriae	503
		S. vincenti	52
		Mycobact. leprae	16
		Str. haemolyticus	24
		Staphylococcus	12
Rats for plague	593	Past. pestis	0
Serum Reactions			
(a) Agglutinations	15,140	Bact. typhosum	892
		Bact. paratyphosum A	35
		Bact. paratyphosum B	245
		Bact. paratyphosum C	21
		Br. melitensis	10
		Br. abortus	8
		Proteus X19	32
		B. asiaticus Castellani	9
		Bact. alkaligenes	1
(b) Diagnosis of Syphilis			
Wasserman Reaction	4,389	—	720
Kahn's Reaction	557	—	35
(c) Isohaem agglutination	722	—	—
(d) Complement-Fixation Tests			
Besredka's	4	—	1
Weinberg's	13	—	0
(e) Precipitin Tests	156	—	—
Faeces			
(a) Microscopic Examinations	18,333	E. histolytica (free)	363
		E. histolytica (cyst)	331
		Giardia intestinalis	428
		Chilomastix mesnili	68
		Trichomonas intestinalis	439
		WORM OVA:	
		Ascaris lumbricoides	1220
		Trichuris trichiura	970
		Enterobius vermicularis	66
		Ankylostoma duodenale	2001
		Dibothriocephalus latus	1
		S. mansoni	9
		Hymenolepis nana	378
		Heterophyes heterophyes	65
		Taenia saginata	352
		Dicrocoelium	9
		Trichostrongylus	152

Nature of Specimens	Total Examinations	Nature and Number of Positive Findings	
Faeces			
(b) Cultural Examinations	8,098	Bact. typhosum	43
		Bact. paratyphosum A	5
		Bact. paratyphosum B	3
		Bact. paratypnosum C	2
		Bact. dysenteriae Shiga	91
		Bact. dysenteriae Flexner-Y	333
		Bact. dysenteriae Strong	76
		Bact. dysenteriae Schmitz	10
Urines			
(a) Chemical	25,606		
(b) Bacteriological	1,867	Bact. typhosum	13
		Bact. paratyphosum A and B	2
		Bact. coli communis	24
		Bact. coli communior	13
		Bact. alkaligenes	1
(c) Microscopic	19,590		
Urethral Smears	799	N. gonorrhoeae	143
Rabies			
(a) Microscopic Examination	74	—	40
(b) Biological tests	24	—	18
TRANSUDATES AND EXUDATES			
(a) Abscess pus	651	Pyogenic organisms	70
(b) Conjunctival exudates	67	Haem. lacunatus	2
		Haem. Koch-Weeks	14
(c) Cyst fluids	78	Echinococcus	1
(d) Lumbar puncture	168	N. meningitidis	2
		Str. pneumoniae	29
		Myco. tuberculosis	4
		Streptococcus	18
(e) Pleural fluid	28		
(f) Syphilitic	5	S. pallidum	5
Other Examinations	4065		
Shaving brushes	278	B. anthracis	0
Autovaccines	575		
Medico-legal exhibits	299		
Snakes	2	Zamenis ravergieri	2
Vaccines for sterility	48		
Snails	64	Isodora truncata	23
Rats	606	R. norvegicus	341
		R. rattus	265
Hair	267	Trichophyton	93
		Favus	3
Spleen smears	9	B. anthracis	3
Gastric juice	216		
Seminal fluid	90	Viable spermatozoa	32
Stools for occult blood	112		

TABLE II.

LABORATORY FINDING IN MALARIA — 1933.

(From 5531 examinations).

Type and Locality	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Total	Yearly
BENIGN TERTIAN MALARIA														
Jerusalem	4	1	—	2	5	2	6	14	30	7	10	9	90	
Jaffa	5	1	1	5	3	12	25	44	35	22	15	22	190	
Haifa	2	2	2	4	3	9	17	24	21	24	14	5	127	
Total recorded	11	4	3	11	11	23	48	82	86	53	39	36	**Total**	407
MALIGNANT TERTIAN MALARIA														
Jerusalem	1	—	2	—	2	3	—	6	7	18	11	7	57	
Jaffa	3	5	2	4	3	3	3	14	26	11	8	12	94	
Haifa	1	—	—	1	—	1	7	13	24	13	14	10	84	
Total recorded	5	5	4	5	5	7	10	33	57	42	33	29	**Total**	235
QUARTAN MALARIA														
Jerusalem	—	—	—	—	—	—	—	—	—	—	—	—	—	
Jaffa	1	—	—	—	—	2	—	—	—	—	—	—	3	
Haifa	1	—	—	—	—	—	—	—	—	—	—	—	1	
Total recorded	2	—	—	—	—	2	—	—	—	—	—	—	**Total**	4
Total Monthly Findings (all forms)	18	9	7	16	16	32	58	115	143	95	72	65	**Yearly**	646

TABLE III

ANTI-RABIES INSTITUTE STATISTICS.

January 1st to December 31st, 1933.

1. General Classification.

Number of bitten persons treated at the 29 Anti-Rabies Centres	1328
Number of interrupted or unnecessary courses of treatment— biting animals remaining well after a period of 10 days' observation	568
Number of treatments carried out regularly and completely	760
Cases of hydrophobia occurring after days of completion of treatment, *i.e.* failures	1
Total mortality rate	0.13
Failure rate	0.13

2. Classification of bitten persons according to species of biting animals.

Dogs	1009	Solipeds	58
Cats	186	Ruminants	17
Jackals	11	Other animals	47

3. Classification according to condition of biting animal:—

A. Rabid by laboratory tests	63
B. Rabid clinically	41
C. Suspected of rabies by altered behaviour	156
D. Unknown (no information available)	500
E. Healthy (after 10 days observation)	568

4. Classification according to location of bite:—

Head and Face	97
Upper Extremity	524
Lower Extremity	660
Body	47

5. Classification according to severity of bite:—

Severe	121
Slight	1179
Not visible	28

6. Interposition of clothing:—

On naked skin	869
Through clothing	459

7. Whether cauterized or not within half hour after bite:—

Cauterized	45
Not cauterized	1283

8. Number of days after bite or contact when treatment was begun:—

0 — 4	1205
5 — 7	73
8 — 14	44
15 — 21	2
Over 21	4

9. Occurrence of paralytic accident:—

Nil.

TABLE IV.
STATEMENT OF RABIES AND ITS CONTROL IN PALESTINE DURING 1933.

Centre for treatment	Bitten Persons		Biting Animals																												
	Number applying for advice and aid	Number actually treated	Specification														Total number of animals	Condition					Disposal									
			Goats	Cats	Dogs	Rabbits	Jackals	Horses	Donkeys	Calves	Cows	Monkeys	Camels	Rats	Unknown	Ducks		Definitely Rabid		Suspected rabid	Healthy	No information available	Killed				Ran away				Kept under observation	
																		By laboratory investigation	Clinically				Rabid	Suspected	Healthy	No information available	Rabid	Suspected	Healthy	No information available	Died within 10 days	Remained healthy
Jerusalem	181	145	—	33	128	—	—	3	1	—	—	1	2	—	1	—	169	1	1	7	85	75	1	1	—	—	—	2	—	75	5	85
Bethlehem	24	16	—	1	22	—	—	—	—	—	—	—	—	—	—	—	23	2	—	3	10	8	2	3	—	—	—	—	—	8	—	10
Hebron	8	8	—	2	6	—	—	—	—	—	—	—	—	—	—	—	8	—	—	—	1	7	—	—	—	—	—	—	—	7	—	1
Beersheba	10	10	—	1	7	—	—	—	—	—	—	—	2	—	—	—	10	—	—	—	7	3	—	—	—	—	—	—	—	3	—	7
Ramallah	1	1	—	—	—	—	—	—	—	—	—	—	—	—	1	—	1	—	—	—	—	1	—	—	—	—	—	—	—	1	—	—
Jaffa	321	321	1	46	216	—	1	8	7	—	—	2	4	8	2	—	295	4	—	19	119	153	3	13	—	—	—	5	—	153	2	119
Tel-Aviv, Kupat Cholim	85	85	—	19	63	1	—	1	1	—	—	—	—	—	—	—	85	—	—	—	51	34	—	—	—	—	—	—	—	34	—	51
Petah Tiqva „ „	56	56	—	9	33	—	—	3	7	—	—	1	—	2	—	—	55	—	—	2	37	16	—	1	—	—	—	1	—	16	—	37
Ness-Tziona „ „	24	24	—	4	16	—	1	—	—	—	—	1	—	—	—	1	23	3	2	3	9	6	4	—	—	—	1	2	—	6	1	9
Rishon-le-Tzion „	1	1	—	—	—	—	—	—	—	—	—	—	—	—	1	—	1	—	—	—	—	1	—	—	—	—	—	—	—	1	—	—
Rehovot, Kupat Cholim	16	16	—	4	7	—	—	—	4	—	—	—	—	1	—	—	16	—	—	—	8	8	—	—	—	—	—	—	—	8	—	8
Herzelia, „ „	10	10	—	3	6	—	—	1	—	—	—	—	—	—	—	—	10	—	—	—	3	7	—	—	—	—	—	—	—	7	—	3
Kfar Sava, „ „	37	37	—	8	22	—	2	3	1	—	—	—	—	—	—	—	36	—	1	3	20	12	1	1	—	—	—	2	—	12	—	20
Ra'anana, „ „	10	10	—	5	4	—	1	—	—	—	—	—	—	—	—	—	10	—	1	1	5	3	1	1	—	—	—	—	—	3	—	5
Gaza	29	29	—	—	28	—	—	—	1	—	—	—	—	—	—	—	29	1	—	3	9	16	—	3	—	—	1	—	—	16	—	9
Ramle	69	69	—	4	48	—	—	1	—	—	—	—	1	—	—	—	54	2	1	8	11	32	2	3	—	—	—	5	—	32	1	11
Haifa	172	172	—	18	108	—	—	3	2	1	—	—	1	12	1	—	146	4	2	22	74	44	5	16	—	—	—	2	—	44	5	74
Haifa, Kupat Cholim	40	40	—	9	24	—	—	3	1	—	—	—	—	1	—	—	38	—	—	4	14	20	—	—	—	—	—	2	—	20	2	14
Binyamina	1	1	—	1	—	—	—	—	—	—	—	—	—	—	—	—	1	1	—	—	—	—	1	—	—	—	—	—	—	—	—	—
Acre	6	6	—	—	6	—	—	—	—	—	—	—	—	—	—	—	6	—	—	2	3	1	—	1	—	—	—	—	—	1	1	3
Nazareth	27	27	—	1	19	—	—	—	—	—	—	—	—	—	—	—	20	2	2	1	11	4	3	1	—	—	1	—	—	4	—	11
Hadera, Kupat Cholim	17	17	—	1	11	—	—	—	—	—	—	—	—	—	—	—	12	2	—	1	4	5	2	1	—	—	—	—	—	5	—	4
Affula, „ „	11	11	—	—	1	—	—	—	—	—	1	—	—	1	—	—	3	2	—	—	—	1	2	—	—	—	—	—	—	1	—	—
Nahalal, „ „	5	5	—	3	1	—	—	—	—	1	—	—	—	—	—	—	5	—	—	—	2	3	—	—	—	—	—	—	—	3	—	2
Nablus	70	70	—	1	55	—	1	—	2	—	—	2	1	1	—	—	63	1	—	3	39	20	1	1	—	—	—	2	—	20	—	39
Jenin	30	30	—	1	17	—	1	1	—	—	—	—	—	—	—	—	20	—	3	6	5	6	3	6	—	—	—	—	—	6	—	5
Tulkarem	24	24	—	1	13	—	4	—	1	—	—	—	1	—	—	—	20	1	—	7	7	5	1	1	—	—	—	5	—	5	1	7
Tiberias	66	66	—	8	51	—	—	1	—	—	—	—	—	1	—	—	61	2	—	8	32	19	2	8	—	—	—	—	—	19	—	32
Safad	21	21	—	—	16	—	—	1	—	—	—	—	—	1	1	—	19	1	1	2	13	2	2	2	—	—	—	—	—	2	—	13
TOTAL	1372	1328	1	183	928	1	11	29	28	2	1	7	12	28	7	1	1239	29	14	105	579	512	36	63	—	—	3	28	—	512	18	579

TABLE V.

CONTROL OF RABIES

DESTRUCTION OF DOGS, CATS, AND WILD ANIMALS (JACKALS, FOXES ETC.)

1st. January to 31st December, 1933.

Sub-District	Municipal and Local Council Areas			Rural Areas			Total
	Dogs	Cats	Others	Dogs	Cats	Wild animals	
Jerusalem	1540	136	—	130	9	—	1815
Ramallah	22	—	—	150	—	20	192
Bethlehem	36	1	—	9	—	—	46
Jericho	—	—	—	37	—	15	52
Hebron	76	7	—	215	—	—	298
Jaffa	1222	1695	—	13	5	—	2935
Ramle	382	37	—	373	4	—	796
Gaza	471	1	—	289	6	27	794
Beersheba	248	—	—	—	—	—	248
Nablus	1	—	—	46	—	—	47
Jenin	28	28	1 jackal	256	—	36	349
Tulkarem	30	—	—	213	1	6	250
Haifa	673	16	—	333	—	32	1054
Acre	121	—	—	27	—	—	148
Tiberias	255	273	—	602	4	18	1152
Nazareth	292	50	—	492	13	—	847
Beisan	215	—	—	616	15	446	1292
Safad	33	—	—	302	6	—	341
TOTAL	5645	2244	1 jackal	4103	63	600	12656

SUMMARY: —		
	Dogs —	9748
	Cats —	2307
	Wild animals	601
	Total	12656

TABLE A.
SAMPLES EXAMINED DURING 1933.

Material	January	February	March	April	May	June	July	August	Sept.	October	Nov.	Dec.	Total
Milks	242	310	343	303	331	294	325	331	296	308	306	313	3702
Butters, Edible Fats, and Oils	118	191	193	122	132	115	139	165	126	75	56	88	1520
Other Food Products and Ingredients	37	19	18	12	4	14	30	2	8	25	5	5	179
Alcoholic Liquors and Ingredients	23	32	15	23	53	13	—	1	92	74	185	166	677
Non-alcoholic Beverages	—	3	3	—	6	—	1	6	2	—	—	—	21
Waters	25	35	25	16	44	42	26	24	25	33	26	19	340
Drugs and Disinfectants	1	1	4	5	7	11	3	1	2	—	—	1	36
Medico-legal and Chemico-legal	652*	60	147	22	118	85	12	62	43	18	14	8	1241
Inedible Commercial Products	130	107	282	114	159	140	108	90	75	122	104	91	1522
Soils, fertiliziers and feeding stuffs	5	20	8	1	31	2	5	4	21	34	9	12	152
Geological Specimens and Antiquities	—	32	7	14	14	5	2	7	2	9	—	8	100
Bio-chemical Specimens	41	35	26	29	31	46	30	43	51	75	46	22	475
TOTAL	1274	845	1071	661	930	767	681	736	743	773	751	733	9965

* This figure includes 619 coins received during the latter part of 1932, but not included in the report for the year.

TABLE B.

MILK ANALYSIS IN THE CENTRAL LABORATORIES AND DISTRICTS—1933.

District	Number of Samples	Number of Prosecutions
JERUSALEM		
Hospital Supplies	325	15
Street Vendors	176	
JAFFA		
Hospital Supplies	50	29
Street Vendors	235	
RAMLE	116	28
GAZA		
Hospital Supplies	28	—
Street Vendors	153	
TULKAREM	91	11
HAIFA		
Hospital Supplies	3	82
Street Vendors	953	
ACRE		
Hospital Supplies	80	2
Street Vendors	254	
NABLUS		
Hospital Supplies	50	8
Street Vendors	279	
TIBERIAS	75	9
HEBRON	24	—
BETHLEHEM		
Hospital Supplies	163	5
Street Vendors	175	
RAMALLAH	180	16
BEERSHEBA		
Hospital Supplies	84	—
Street Vendors	46	
SAFAD		
Hospital Supplies	6	1
Street Vendors	156	
TOTAL	3702	206

TABLE C.

CHEMICAL SERVICE FOR AGRICULTURE

SOURCE.

Nature of Sample	Dept. of Agriculture	Dept. of Development	Geological Adviser	Dept. of Customs and Trade	Private Sources	Total Samples	Determinations
Soils	68	31	—	—	5	104	2315
Fertilizers	—	—	—	—	12	12	24
Water	7	107	4	—	5	123	736
Honey	17	—	—	—	1	18	141
Oranges	24	—	—	—	—	24	285
Olives	15	—	—	—	—	15	90
Poultry foods	15	—	—	7	—	22	187
Geological Specimens	—	4	43	—	7	54	429
Veterino-legal Specimens	54	—	—	—	14	68	136
TOTAL	200	142	47	7	44	440	4343

APPENDIX.

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